NOVEMBER 2, 1953

Rates Still in the Gaslit Era . . . p. 45

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

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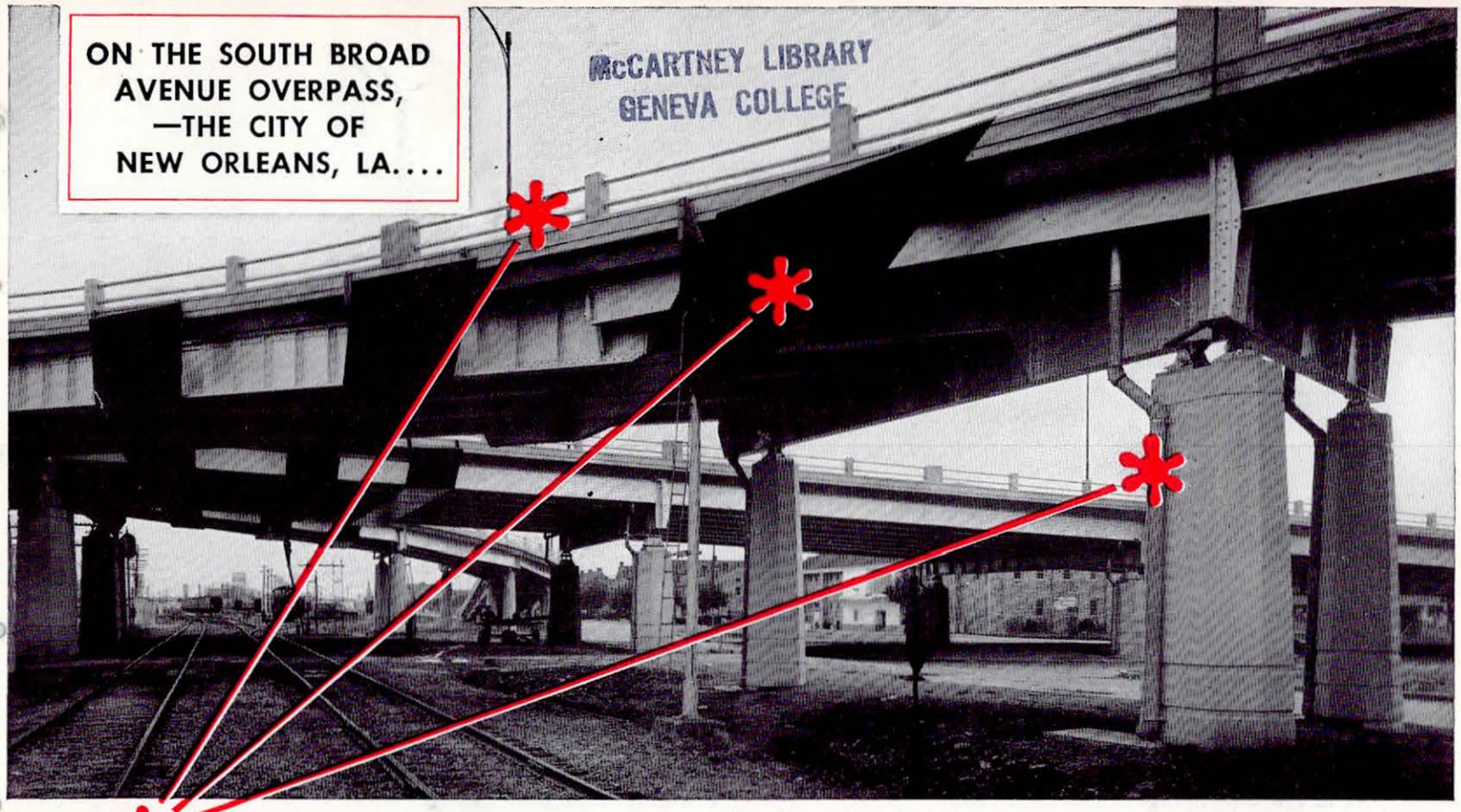
ON THE SOUTH BROAD AVENUE OVERPASS, —THE CITY OF NEW ORLEANS, LA....



*ECONOMIZES by using WROUGHT IRON in these VITAL SERVICES

This attractive overpass, one of the key grade separations in the New Orleans Union Passenger Terminal and Grade Crossing Elimination Program, was carefully designed to give maximum service and dependability. One evidence of this planning is the extensive use of wrought iron. In three vital services—blast plates, handrailings, and structure drains—the City of New Orleans economized by using over 300 tons of this time-tested material. G. A. Heft and Co., New Orleans, La., was the consulting engineer on the project; Farnsworth and Chambers, Houston, Texas, were the contractors.

Wrought iron is a veteran in each of these services. Its ability to withstand the effects of blast gases, and the "sand blasting" action of ash and cinder expelled at high velocity makes wrought iron an ideal choice for blast plate service. In handrailing and drain services, wrought iron's extra protection has been proved in installations everywhere. Another important feature of wrought iron's inherent resistance to corrosion is that it does not require frequent coats of paint. These superior performance qualities are responsible for wrought iron's wide acceptance by states, municipalities, and leading railroads.

You'll find some helpful information on these services in our bulletin, *Wrought Iron in Bridge Construction.* Write for a copy.

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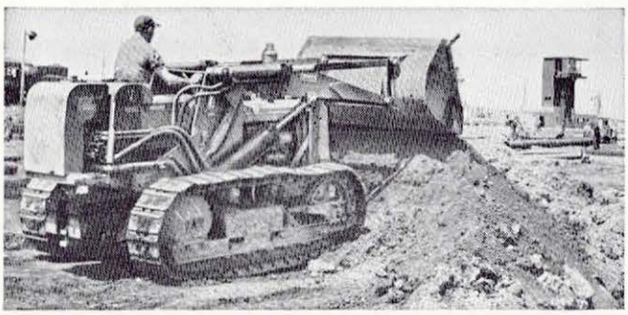
Modernizin' the Milwaukee

NEW 70-TRACK YARD. Milwaukee railroad officials call this freight classification yard at Bensenville, Illinois, the world's largest using both route switching and retarder speed control. The 70 tracks have a 5,311 car capacity.



CLEANUP CREW. Before the first 37 tracks were placed in service in mid-summer, this International TD-9 diesel crawler and front-end shovel did a fast cleanup job, removing dirt from excavations for light towers and from track relocations.

HEADIN' FOR THE HUMP. This roadbed, being roughed out by an International TD-14 crawler and dozer, will provide a second main lead from the roundhouse to the hump in the intricate maze of tracks at the Bensenville yard.

International Power speeds completion of new 5½ million dollar freight car classification yard

The $5,500,000 outlay by the Milwaukee railroad for a new freight car classification yard at Bensenville, Illinois, marks a giant stride forward in the line's modernization program to provide improved customer service.

Much of the dirt moving—from building new track beds and raising old tracks right down to the final cleanup jobs—was handled with dispatch by two International crawlers —a TD-14 with bulldozer and a TD-9 with front-end shovel.

For power proof of what Internationals can do in your yards or along your right of ways, call your International Industrial Distributor today. He'll arrange a demonstration with the equipment you are interested in whenever and wherever you say.

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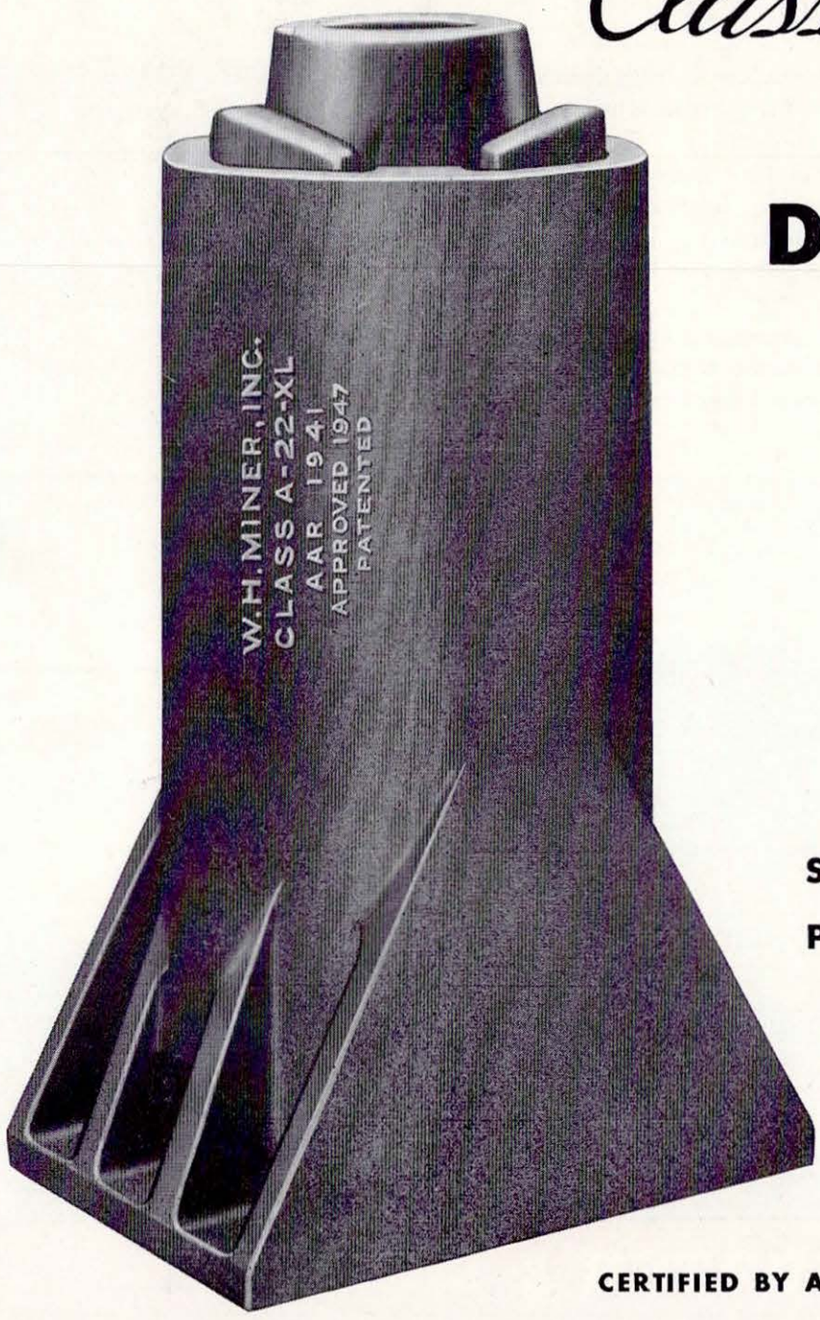

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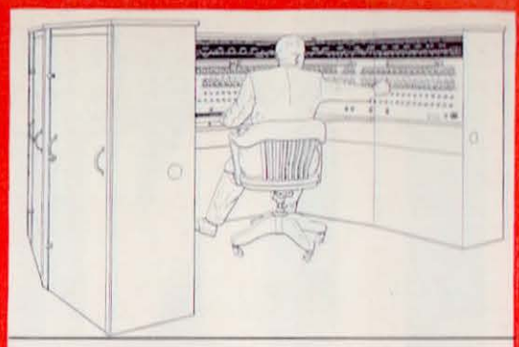
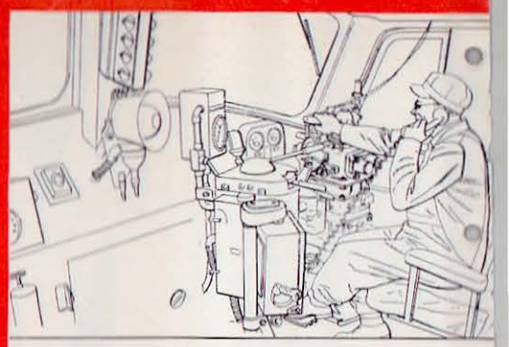


CENTRALIZED TRAFFIC CONTROL



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Make Passenger Trains Work Harder... Last Longer... With "UNION" Systems

FAST, comfortable streamliners will attract passengers . . . bring them back time and again, too, if dependable "on time" performance is maintained. But to be profitable, trains must be operated efficiently.

That's where "UNION" Systems help, by making it easy for the new equipment to do more work. C.T.C., Cab Signaling, Interlockings and Inductive Train Communication reduce unnecessary delays . . . eliminate congestion . . . *keep trains moving* so that fast schedules can be maintained without excessive speeds.

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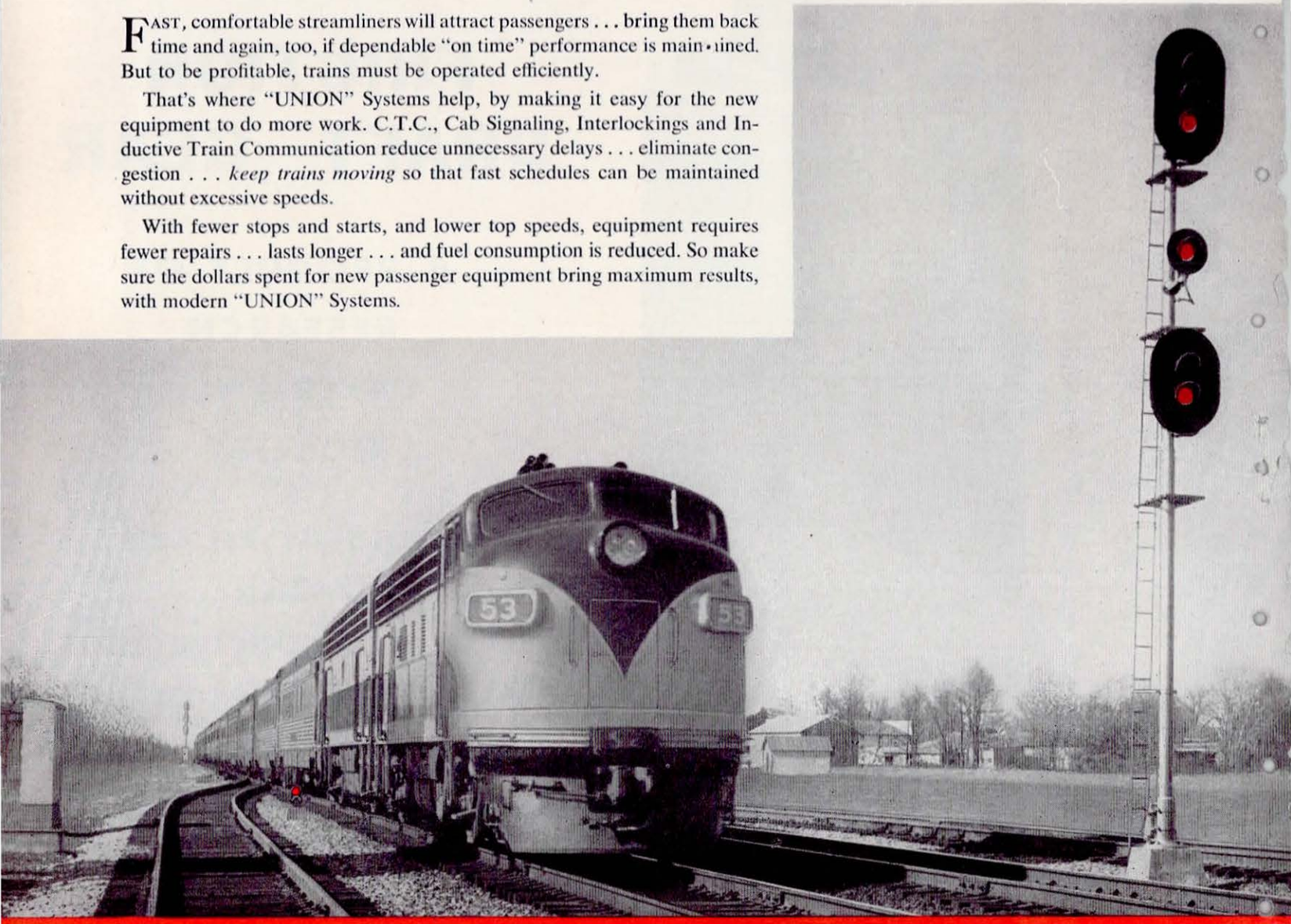

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SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

November 2, 1953 Vol. 135, No. 18

Week at a Glance

Rate theory is one thing and rate practicability may be something else, I.C.C. Commissioner Clarke implies in objecting to a recent decision by that body that requires an intrastate rate that moves traffic to be increased because there is a higher interstate rate, even though the latter fails to move traffic. 13

Injurious competition doesn't exist where no traffic moves, says Commissioner Clarke, so he can't see where anybody suffers from discrimination because an intrastate rate that works is lower than a "paper" interstate rate. 13

Fewer freight cars were available October 1 than a month previously, despite a gain during September of 1,167 cars in total ownership. The decline resulted because the bad-order backlog went up by 2,033 cars. The current freight car supply situation is summarized this week by Chairman Gass of the A.A.R.'s Car Service Division. 14

The Illinois Central's annual report won the "gold Oscar" top prize for all industry in the 1952 contest conducted by the Financial World. President Wayne Johnston accepted the honor at ceremonies in New York last week. 16

Railroads still have too many accidents, President White of the Nickel Plate told the railroad section of the National Safety Council. 17

Why men get hurt was spelled out by Mr. White in his talk. Responsibility for accidents was assigned partly to the individual employee and partly to his supervisor. 17

Railway management needs more and more information in order to keep pace with the requirements of a rapidly changing environment. High-grade analysis of problems is the foundation for sound decisions. 43

PUBLISHED WEEKLY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION AT ORANGE, CONN., AND ENTERED AS SECOND CLASS MATTER AT ORANGE, CONN. UNDER THE ACT OF MARCH 3, 1879. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA. EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 79 WEST MONROE S REET, CHICAGO 3, Ill. BRANCH OFFICES: 1081 NATIONAL PRESS BUILDING, WASHINGTON 4, D. C.—TERMINAL TOWER, CLEVELAND 13, OHIO—TERMINAL SALES BUILDING, PORTLAND 5, ORE. — 1127 WILSHIRE BOULEVARD, LOS ANGELES 17, CAL.—244 CALIFORNIA STREET, SAN FRANCISCO 11, CAL. — 2909 MAPLE AVENUE, DALLAS 4, TEX.

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Current Statistics

Operating revenues, eight months	
1953	$ 7,177,891,292
1952	6,810,999,610
Operating expenses, eight months	
1953	$ 5,413,718,323
1952	5,298,347,702
Taxes, eight months	
1953	$ 862,075,835
1952	780,695,887
Net railway operating income, eight months	
1953	$ 744,916,284
1952	613,069,838
Net income, estimated eight months	
1953	$ 572,000,000
1952	435,000,000
Average price railroad stocks	
October 27, 1953	58.89
October 28, 1952	61.81
Carloadings revenue freight	
Forty-two weeks, 1953	31,507,202
Forty-two weeks, 1952	30,551,021
Average daily freight car surplus	
Wk. ended October 24, 1953	7,724
Wk. ended October 25, 1952	28,517
Average daily freight car shortage	
Wk. ended October 24, 1953	3,788
Wk. ended October 25, 1952	11,429
Freight cars delivered	
September, 1953	5,706
September, 1952	3,762
Freight cars on order	
October 1, 1953	42,198
October 1, 1952	95,377

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Week at a Glance CONTINUED

RAILWAY AGE FORUM

Gaslit era rate-making practices don't fit into the 1953 competitive transportation situation. The railroads' rate umbrella doesn't benefit the customers it is supposed to protect. It doesn't benefit the railroads. It only benefits the truckers. The time has come to allow railroads to bid competitively for traffic on the basis of their cost characteristics. **45**

Problems common to industry and railroads call for similar solutions, so it's odd to find businessmen who want economic freedom for themselves objecting to economic freedom for the railroads. Here's a "selling" job for railroad management. **46**

Cooperation in yard work, with the yard foreman getting his trains built up soon enough to allow the car foreman ample time for inspection, journal box servicing and correction of minor defects before scheduled departure, means big dividends in better train operation. **47**

Longer life for crossties is still one of the important objectives of railroad maintenance-of-way departments. What's being done to accomplish it was a major topic of the recent annual meeting of the Railway Tie Association. **49**

Transistors, Intrafax, compandors — these are only a few of the new electronic devices the communications department people are adapting to the requirements of efficient and economical railroad operation. **53**

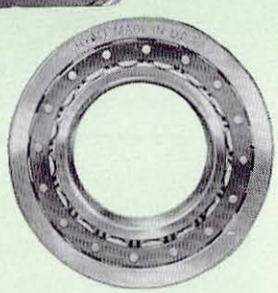
Selecting new plant sites is a highly important managerial responsibility in which the industrial traffic man frequently plays an important part. Some of these men speak for themselves in appraising the significance of their contribution to these traffic-influencing decisions. **56**

Fire-retardant coatings are insurance on property worth millions where railroads store high-priced new

HYATT WHIPS ANOTHER TOUGH DIESEL BEARING APPLICATION!

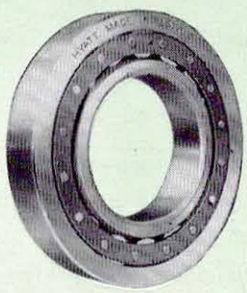
New pinion-end armature bearing solves your traction motor problem

- No rubbing contact between cages and race flanges
- Improves flow of lubrication
- New treated, roller riding, steel cage
- Safer
- Longer lasting
- Facilitates inspection of all operating surfaces



Hyatt's new design eliminates all rubbing contact between the race flanges and the bearing cage.

Cage and rollers remove as a unit, permitting complete and easy inspection of all operating surfaces.



Rings and bars of new steel cage are specially treated to give the new bearing greater wear resistance.

For one of the toughest bearing applications in a diesel locomotive—the pinion end of traction motor armature shafts—Hyatt is now producing a superior new bearing with substantially greater life expectancy. Of completely advanced design, the new Hyatt bearing combines the advantages of a "roller-riding" cage and maximum capacity rollers. Rubbing contact between cage and race flanges is completely eliminated, and flow of lubricant to all parts of the bearing is greatly improved. Rings and bars of the new steel cage are treated for greater resistance to wear, and a new assembly process assures permanent rigidity of the cage under operating stresses. In addition, cage and rollers remove as a unit—for complete inspection. The over-all result is an easily-inspected bearing of far greater durability—a bearing designed to "stand up" for more miles of trouble-free performance than you ever thought possible. For further information, write to Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

HYATT FOR TRACTION MOTOR ARMATURE SHAFTS **ROLLER BEARINGS**

Week at a Glance CONTINUED

diesels in converted steam locomotive roundhouses. 58

A converted roundhouse at Gibson, Ind., has met the Indiana Harbor Belt's diesel servicing requirements at that point very effectively, and at much less cost than a new building. 60

Railroad research is applied research; they leave pure research to the universities and to industry. But in their field the railroads are enlarging their activities steadily. 62

Truckers' share of freight increases steadily, percentagewise, in a state like California, where intrastate hauls are in the long-haul category, and the railroads' share is proportionately smaller, as measured in gross revenue. 74

A self-contained instruction car, carrying its own steam and electrical generating equipment so it can be spotted anywhere on the railroad, is bringing the Great Northern's safety program to the men "on the ground" all over the system. 76

BRIEFS

The I.C.C. has modified its AB-brake order. The modification added exemption provisions designed to take care of special situations, including movements of scale-test cars, work equipment, and industrial cars traveling on their own wheels as shipments or used only within limits of a single switching district.

Trailer-truck drivers in New Jersey must submit this fall and winter to rigid physical and technical tests if they wish to continue driving after next April 1. The tests, which will lead to a special license, so far required by no other state, are the result of legislation adopted after 10 people in one family were killed by a trailer-truck driven by an unlicensed operator last spring. Drivers belonging to the A.F. of L. teamsters union are threatening a strike if the requirements are enforced.

Fire experiment. — "With abandonment of steam power, we have also disposed of most of the water stations, thus eliminating a convenient means of handling fire emergencies along the line," reports Arthur K. Atkinson, president of the Wabash. "Under the circumstances, we have found it advisable—as an experiment—to carry water barrels with buckets in our diesel locomotives, in addition to regular fire extinguisher equipment."

"Let the public pay" is the truckers' attitude when it comes to providing property and equipment protection. Truckers usually ask local police and the F.B.I. to provide protection for them, and to do their detective work. With truck hijacking on the increase, some local police and F.B.I. representatives are becoming increasingly irritated with the truckers' refusal to help. By contrast, railroads —with their own extensive, highly trained police "network"—enjoy excellent relations with most law enforcement agencies because of the way railroad police give help as often as they ask for it.

An unusual facet of the Toledo, Peoria & Western's recent traffic staff meeting was inclusion of the chairmen of 14 unions at a luncheon session, a traffic department forum and the following buffet dinner. President J. Russel Coulter, admitting that the idea was untried, said he felt that "people who sell the service and people who give the service should have enough communications between them to realize each others' problems." Both the traffic and union men seemed to favor the idea.

What are the Ingredients of Good Railroad Service?

RAILROAD MANAGEMENT

These are the men who must maintain an intelligent policy control; they must have a constant awareness of the nation's pulse and of all facts available to help them *improve* service, *cut* costs and increase profits; these men must *discriminate*, *decide*, then *act*.

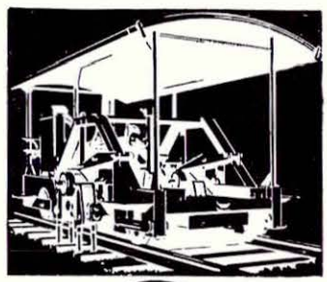
RAILROAD ENGINEERING

The Chief Engineer and Mechanical Department officers and employes must *supply information* to management — as well as *apply* new principles to practical use; these men must have *vision* as well as knowledge to see through faulty engineering design — and to recognize value in new principles in order to *recommend to management*.

RAILROAD SUPPLIERS

This is a group of industries *within an industry*; firms who exist to serve the railroads. They are constantly improving products and seeking ways to cut costs.
Matisa is a railroad supplier with capital invested in the future of the railroads — continually investing more on research. *Matisa* track equipment makes roadbeds smoother, speeds maintenance, cuts costs . . . *Matisa* is known as the firm which has set up a "new standard of track maintenance."

Matisa's Sales Progress Report *proves that more and more railroad presidents are looking to their chief engineers for track maintenance equipment to ensure operating economy as well as quality. If you would like a copy of this report, write us.*



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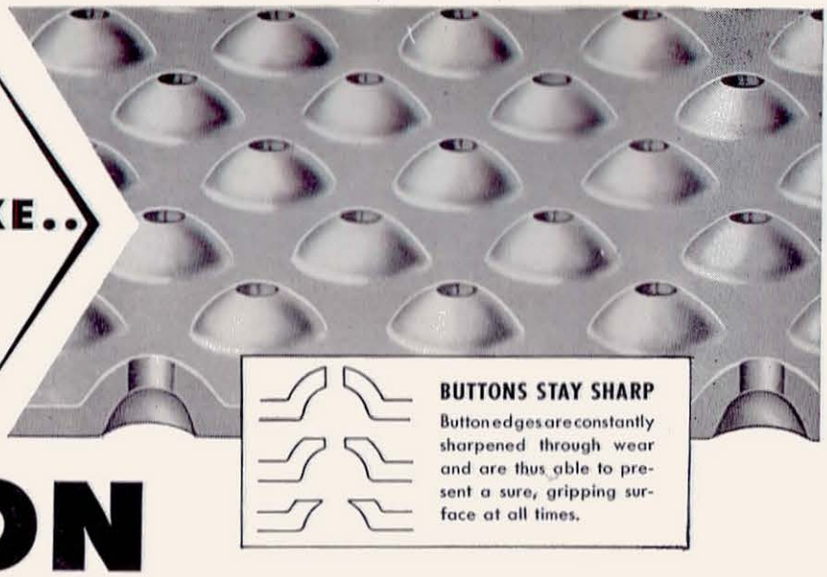
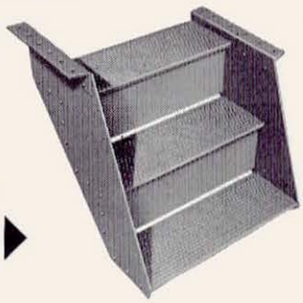


BUTTONS STAY SHARP
Button edges are constantly sharpened through wear and are thus able to present a sure, gripping surface at all times.

MORTON KASS Safety Treads

Locomotive stirrup steps may be made safe permanently with Morton Kass Safety Treads. Perforated buttons provide ever-sharp footage.



Kass Safety Treads are furnished as an integral part of Morton Step Flights; also, they can be provided separately for attachment by car builders or railroads who make their own step sides.

Morton "Chanarch" Steel Flooring is the ideal support for composition flooring. Narrow dovetail sections serve as anchorage for floor composition. Arches, designed for maximum load-carrying ability, reduce the amount of top surfacing needed. Choice of metals and gauges.

CHECK THESE FEATURES

SELF-SHARPENING PERFORATED BUTTONS. Non-dulling feature (see diagram above) means positive, lasting protection against accidents—a sure foothold in all directions, in any kind of weather.

DURABILITY. Fabricated of mild steel, stainless or other alloy steels, or aluminum. Same thickness of metal at top of safety buttons as in flat surfaces between. This means longer life!

VERSATILITY. Available in practically any shape for replacements and new installations—may be self-supporting or fastened to existing surfaces. Smooth flange margins as desired. Available with flared nosings and with any number of flanges as specified.

ECONOMY. Morton Kass Safety Tread is lower in cost, lighter in weight and wears longer. Also easier to install; no maintenance problem.

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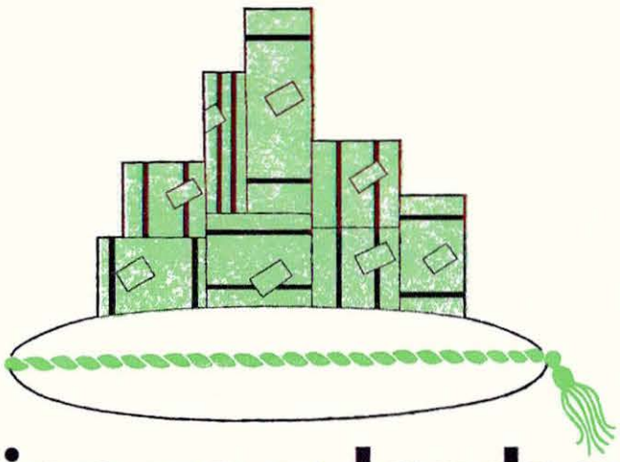

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Long travel springs made by Railway Steel-Spring Division cushion heavy jolts and shocks, materially reduce lading damage claims.

These rugged, heavy coil springs cut wear and tear on your rolling stock, and lower the maintenance costs of your roadbed, too.

Designed and fabricated by one of the oldest spring manufacturers in the country, *"Railway"* springs are positive aids in increasing operating profits. Complete information is available from your Alco sales representative in New York, Cleveland, Chicago, Richmond, St. Louis, St. Paul, San Francisco.

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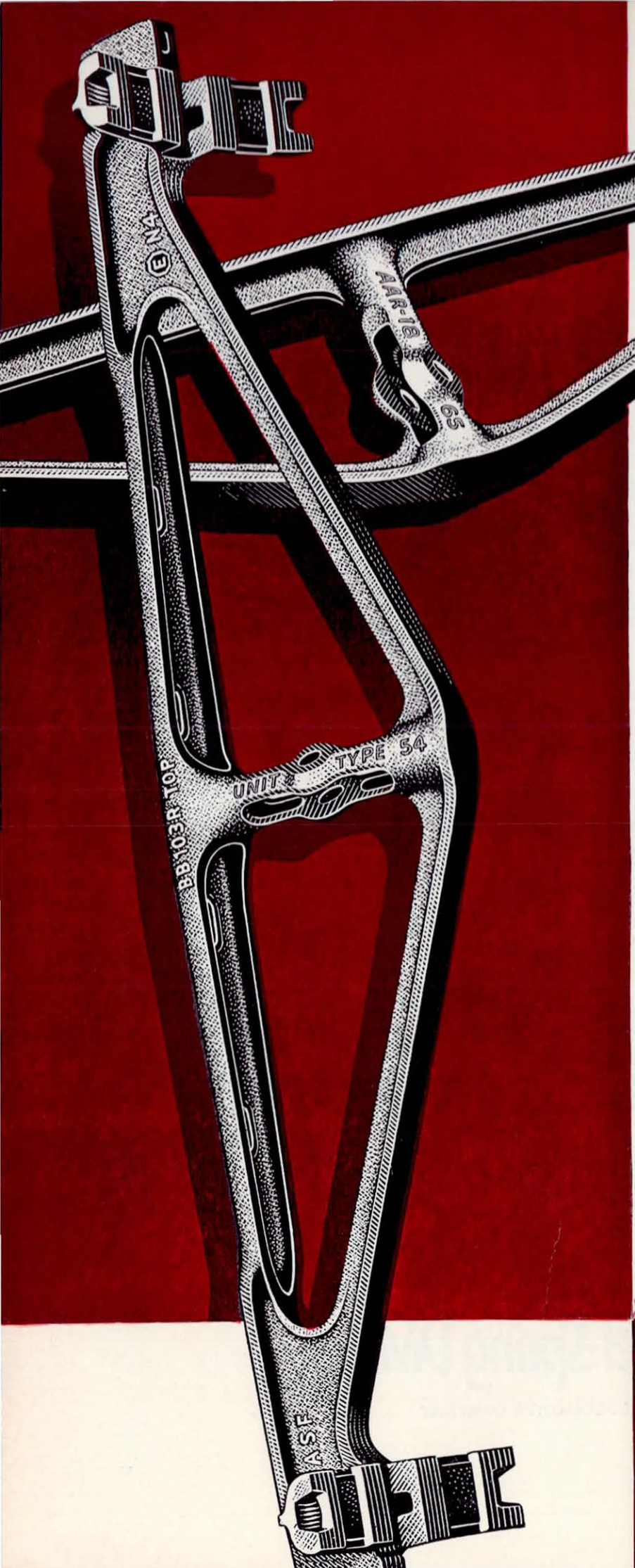

UNIT or HANGER...

A.S.F. Cast-Steel Brake Beams can reduce your costs per car mile!

The real cost of any brake beam is the cost of maintenance and replacement. That's why it pays to consider these facts about ASF Cast-Steel Unit or Hanger Type Brake Beams:

Easier to maintain...With nothing to flex or work loose, these rigid, one-piece beams *stay* rigid. Fulcrums stay in place. Rods and levers stay aligned. False piston travel is stopped before it starts. In fact, the only adjustment ever needed is to compensate for brake shoe wear!

Longer lasting..."Beefed up" metal sections have no crevices to encourage rust. Worn pin-holes are easily built up by welding; burned heads quickly renewed by welding on new facings. Misalignments due to derailment can almost always be corrected. And tests prove that even after thousands of car miles, ASF Cast-Steel Beams will meet the *same minimum deflection standards as when first placed in service!*

Get the complete story on cost-reducing, longer-lasting ASF Cast-Steel Brake Beams. Write us today, or ask your ASF Representative to give you the facts on their service during well over a billion car miles!

Like modern side frames that replaced the built-up arch bar . . .

the MODERN BRAKE BEAM is the ASF

1-Piece Cast-Steel Unit or Hanger Type Beam

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410 N. Michigan Avenue, Chicago 11, Illinois
Canadian Sales: International Equipment Co., Ltd., Montreal

I. C. C.'s Job: Regulate Competition

Clarke says great care must be exercised by commission in carrying out this difficult task

The principal duty of the Interstate Commerce Commission today is not the regulation of monopoly but the regulation of competition—a task that is difficult and dangerous to discharge effectively, Commissioner Owen Clarke said last week.

Great care must be taken, he declared, not to deprive the country of the benefits of enterprise and initiative which competition most certainly stimulates. At the same time, he added, it is essential to maintain "justice" among carriers and between carriers and shippers.

Addressing the transportation committee of the National Council of Farm Cooperatives, at Kansas City, Mo., Mr. Clarke said he believes rate-case timelags, of which railroads have complained, have been "largely eliminated" by the commission.

The commissioner cited this year's Ex Parte 175 decision, which was handed down in 55 days, and he said when the "tremendous workload" of the commission is considered "it seems quite remarkable that these general increase cases have been handled so promptly."

These views were stated during Mr. Clarke's discussion of pending legislation which is known as the "quick-rate-increase amendment" to the Interstate Commerce Act. As reported by the Senate Interstate Commerce Committee, this bill would require I.C.C. action within 60 days on rate-increase applications filed to cover increases in costs.

Timelag Stand Diluted—In earlier statements, Commissioner Clarke spoke favorably of this legislation. Last week, however, he noted that "the commission" considers the bill "neither necessary nor desirable."

"Circumstances and public interest may dictate that more than 60 days be devoted to the assembling and consideration of the evidence required to justify an increase," he said.

Commissioner Clarke commented also on another piece of pending legislation, the so-called trip-leasing bill. This would take away the I.C.C.'s authority to fix the term of a motor vehicle lease.

"I do not share the opinion," the commissioner said, "that agriculture's only solution to the trip-leasing problem is through restrictive legislation."

Mr. Clarke said he favors "fair and impartial" regulation of trip-leasing by the I.C.C., but he expressed the personal opinion that the commission, in prescribing its leasing rules, "has not succeeded in its sincere effort to preserve completely the agricultural exemption intended by Congress.

"Accordingly, it is my opinion that the leasing rules should be amended to make available to agriculture the kind and amount of truck leasing which will guarantee an adequate and economical supply transportation at all times to this important segment of our economy," Commissioner Clarke said.

Out-Of-Pocket Rates—The day following his Kansas City speech, Commissioner Clarke spoke at the convention of the American Trucking Associations in Los Angeles. He said, among other things, that the I.C.C. should endeavor to prevent any carrier from hauling traffic at an out-of-pocket loss.

"The case is not so clear," he said, "with respect to rates which yield, if anything, only a margin over so-called out-of-pocket cost." He said such rates are "dangerous and merit the closest scrutiny."

Commenting on the commission's workload, Mr. Clarke referred to the "huge volume" before the Suspension Board. He said this situation is due, in part, to the "unfortunate practice that has arisen of protesting tariffs, *pro forma*, as a matter of obstructive competitive routine.

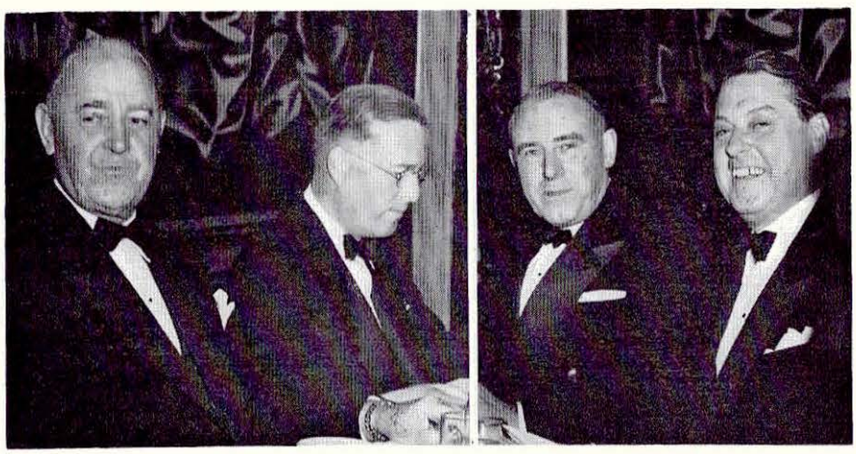
"To put it mildly, we are not pleased with the guerilla warfare that some carriers attempt to carry on within the commission's portals," he said. "Congress did not create the I.C.C. for use by commercial rivals as an instrument for mutual harrassment and obstruction."

Beatty Calls Transport Taxes "Unjust Burden"

Federal excise taxes on passenger and freight transportation are "an extra and unjust burden" on all travelers and shippers who must pay these taxes when they use common carriers, Albert R. Beatty, assistant vice-president, Association of American Railroads, declared last week.

Addressing a convocation at Morgan State College, Baltimore, Mr. Beatty urged repeal of the 15 per cent tax on passenger tickets and the 3 per cent tax on freight shipments. Repeal of these taxes by Congress would make it possible for "more people to travel and ship by railroad and other common carrier" and "would also eliminate an unequal and discriminatory tax," Mr. Beatty stated.

Explaining that the passenger excise tax was imposed during World War II to provide additional revenue to the Federal government and to discourage travel, Mr. Beatty said that "the tax was quite effective in keeping passengers off trains" and is having the same result today. At present, he



B&O OFFICERS HONORED—Almost 1,000 business, transportation and government executives gathered at the Lord Baltimore Hotel, Baltimore, last week to honor Roy B. White, chairman, and Howard E. Simpson, president, of the Baltimore & Ohio, at a testimonial dinner held by the city's Association of Commerce. In the above composite photograph are, left to right: Col. White; Charles S. Garland, Baltimore banker who acted as toastmaster; Duane L. Peterson, president of the association; and Mr. Simpson. Col. White was presented with a large silver tray inscribed with the seal of the association and an inscription marking the occasion. Signatures of about 40 of Col. White's close friends were engraved on the tray.

stated, more than 70 per cent of the seating capacity of passenger trains is not being used.

Carrying the Mail—Commenting on recent moves to divert some mail from railroads to other forms of transportation, Mr. Beatty pointed out that railroads today carry more than 85 per cent of all intercity mail and approximately 90 per cent of all non-local first-class mail that moves by surface carriers. He went on to report that railroads in 1952 received from the Post Office Department, for carrying first-class mail, $40,600,000, of which $23,750,000 was payment for providing railway post office cars in which mail can be assorted en route. This left less than $17,000,000 for payment of transportation service alone, he added.

On the other hand, Mr. Beatty continued, airlines received $34,600,000 last year for carrying air mail, excluding air parcel post, and this was twice as much as was paid railroads for transporting first-class mail. Yet, in handling this mail, airlines performed only about one-tenth as much transportation service as railroads as measured by ton-miles, he stated.

Mr. Beatty warned that "any substantial diversion of mail from railroads to other forms of transportation cannot help but add to railroad deficits and thereby weaken that system of transportation upon which the general public must rely."

Trip-Leasing Undermines Rates

I.C.C.'s Cross tells truckers that legislation ending commission ban would bring confusion

Enactment of the pending trip-lease bill would "undermine the motor rate structure and recreate the confusion which prevailed prior to the passage of the Motor Carrier Act in 1935."

That's what Interstate Commerce Commissioner Hugh W. Cross said in an October 27 address at the annual convention of American Trucking Associations in Los Angeles, Calif. At the same convention, Commissioner Cross also delivered an October 29 address, discussing various motor carrier matters now before the commission.

The Bill—The trip-lease bill is H.R. 3203, which would end the commission's power to prohibit trip-leasing of motor trucks. Passed by the House, it was left pending before a subcommittee of the Senate committee on interstate commerce when Congress adjourned August 3.

Noting that ht "principal support" for this proposed legislation has come from agricultural groups, Mr. Cross called attention to the fact that the commission's leasing rules, as now prescribed to become effective March 1, 1954, exempt from the 30-day-lease requirement all vehicles controlled or operated by any farmer or vehicles hauling agricultural commodities or livestock. Then came the commissioner's warning that "confusion" would follow enactment of the bill.

"It is probable," he added, "that unless the industry weighs the consequences of this legislation upon established rights contained in existing certificates and permits and becomes vocal that trip-leasing even under verbal contracts and without restriction will be made legal for every truck operator."

Tailored Private Trucking—The commissioner proceeded to discuss "off-shoots" to the problem of trip-leasing, including "buy-and-sell" arrangements whereby the technical status of private carriage is given the transportation of the commodities involved. Even if such transportation is actually for hire, it is usually difficult to prove it in a formal proceeding before the commission or the courts, Mr. Cross also said.

In any event, he added, "the result is that an increasing tonnage which in the past has been hauled by authorized rail or motor carriers is being transported by truck without any finding of public convenience and necessity."

I.C.C. Consolidates Accounting-Bureau Units

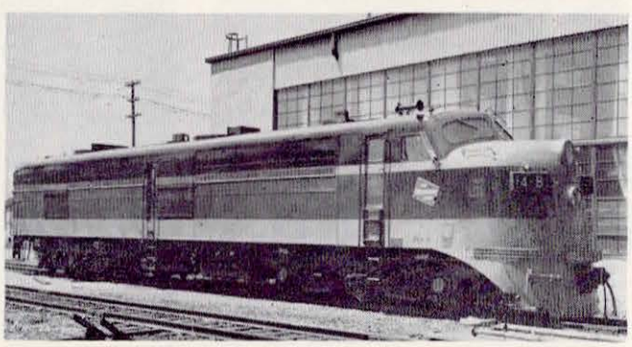
The Interstate Commerce Commission has merged functions of the Depreciation Section into the Accounting Section of the Bureau of Accounts and Cost Finding.

Bernard V. Moffett, who was formerly chief of the Depreciation Section, has been appointed chief of the Accounting Section.

Car Service

Serviceable Fleet Lost 866 Cars in September

Despite a 1,167-car gain in total ownership, Class I railroads and their car-line affiliates lost 866 freight cars from their serviceable fleet in September. The serviceable ownership on



A VETERAN DIESEL IS "RESTYLED"

BEFORE—Back in 1941 the Milwaukee acquired a pair of 2,000-hp. "A" type road passenger locomotives from the American Locomotive-General Electric Companies. They are shown here backing into Chicago Union Station with the "Afternoon Hiawatha" in 1942. For a number of years they were assigned to Chicago-Twin Cities runs, where they performed with a record of 99 per cent availability.

NOW—Both locomotive units have been completely overhauled and restyled with a new nose and cab assembly built at the road's Milwaukee shops. While shop forces fabricated and affixed the new front ends, the engines and main generators were returned to the manufacturers for complete overhauling. New body side panels with filters, and new water-cooled lubricating oil systems were among other changes.

October 1 was 1,754,718 cars compared with a September 1 figure of 1,755,584.

This was shown by equipment data in the latest review of "The National Transportation Situation," issued by Chairman A. H. Gass of the Car Service Division, A.A.R.

September's gain of 1,167 cars brought total ownership to 1,853,764 cars on October 1. The gain was the net result of installation of 5,323 new cars and retirement of 4,156 cars. The loss in serviceable ownership resulted when this gain was more than offset by the 2,033-car increase in the bad-order backlog, which was up from 97,013 cars to 99,046 cars.

Repair Program Still Big.—The bad-order proportion of total ownership rose slightly during the month—from 5.2 per cent to 5.3 per cent. "This," Mr. Gass said, "is not an indication, however, that railroads are reducing their repair programs, as 32,512 cars were reported given heavy repairs in September, more than in any month since last May."

Reviewing equipment conditions by types of cars, Mr. Gass reported that supply of high-grade box cars continues to be a "major problem," and he expected that situation to prevail generally through this month. The supply of special-type flats also continues tight, but demands for other types of cars are being met or shortages are scattered and not serious.

As to freight car detention, the C.S.D. chairman said the usual checks had indicated 17.2 per cent of the cars placed in September were detained beyond the free time of 48 hours. That compared with August's 17.03 per cent, and 16.22 per cent in September 1952.

Load Rules for Transfer Freight Kept in Effect

Second Revised I.C.C. Service Order No. 888 has been modified by Amendment No. 1 which set back the expiration date from October 31 to January 31, 1954. The order prescribes minimum loading requirements for carload transfer freight.

Competitive Transport

Greyhound "On Thin Ice"

Film for bus company supervisors tackles a universally tough personnel problem

With almost startling frankness, the Greyhound Corporation is telling supervisory employees that the bus system is on thin ice; that increased competition from railroads, airlines, the private auto—and even luxury buying other than travel—could soon lead to some belt tightening if costs can't be lowered and more traffic attracted.

Greyhound's problem was to get this message across to its supervisory forces (largely station agents) without creating a sense of insecurity or defeatism within the ranks. Because the bus system's supervisory forces are widely scattered, it was decided to use a motion picture for the job because: (a) It could be carefully—and finally—prepared in advance, and (b) would enable the identical story to be brought to all.

The result is a film called "Where Do We Go From Here?," which is currently being shown to Greyhound forces across the country, with a planned program of locally managed question and answer sessions as a followup. The film was written for Greyhound by the staff of Dallas Jones Productions, Inc., of Chicago, and produced by that organization as a 20-minute sound, color show on 16-mm. film.

Plot—The heart of the film is a simple "family drama" type of plot. A station manager is placed in the dual role of employee and investor, when his wife receives a substantial windfall and invests it in Greyhound stock, because "You're always complaining about how much they pay the stockholders." Attempting to prove that this purchase was unwise—that the competitive situation makes Greyhound's future uncertain at best—the station manager begins a careful study of the corporation's finances. In due time this leads him to an interview with R. A. L. Bogan, executive vice-president.

From Mr. Bogan (who plays himself in the film), the supervisor learns:

- That out of 37 seats in the average bus, the current average load per trip is 22½.
- That it takes the income of 21 of these seats to operate the system.
- That out of the remaining 1½ seats must come the cost of new buses and terminals as well as dividends.
- That rising costs are "eating into that margin . . . gradually getting to the point where there won't be any margin at all.

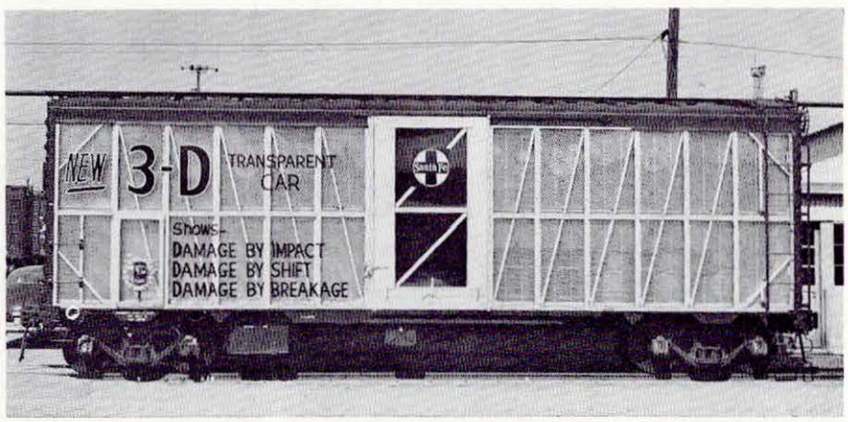
Animated color charts appear on the screen to lend emphasis to these comments.

The answer, Mr. Bogan tells the worried supervisor, lies in providing more attractive service at lower costs—a responsibility that rests largely with supervisory employees who have direct control over day-to-day operations.

The film is one of the first in the transportation industry to go beyond the point of on-the-job training, accident prevention, etc., and delve into the less tangible and more difficult sphere of personnel relations. One railroad representative, who attended a special screening, said he felt the film warranted the attention of railroad personnel officers.

U. S. Chamber Sponsoring Highway Finance Meeting

The Chamber of Commerce of the United States is sponsor of a National Conference on Highway Financing to



THE SANTA FE'S NEW PLASTIC-SIDED damage-prevention study car (above), now on tour in the Los Angeles area, is to be displayed at all the road's terminals and major yards. Plexiglass sheeting and metal screening were used to replace conventional lining and sheathing when the car was modified at the road's Topeka shops. Interior floodlights, for night use, are powered by a storage battery beneath the floor. Between showings, the plastic sides are protected by demountable panels.

be held December 10 and 11 at the Shoreham Hotel, Washington, D. C.

Questions to which the conference will give "special stress" include these:

What should be the size of the federal aid highway program in the future?

Should concentration of federal funds on interstate and primary highway routes be increased?

How much can be expected from toll roads in solving the nation's highway needs?

From what sources should come the major share of additional highway revenues?

Participants in the conference's panel discussions of these and other highway questions will include Charles L. Dearing, deputy under secretary of commerce for transportation, and Representative J. Harry McGregor, Republican of Ohio, who is chairman of the subcommittee on roads of the House Public Works Committee. The summation at the conference's final session will be given by Burton N. Behling, senior transportation specialist, Library of Congress.

Truckers of Explosives Get By-Pass Route Authority

The Interstate Commerce Commission has prescribed a rule which permits regular-route truckers to deviate from their authorized routes to avoid congested places while transporting explosives or other dangerous articles.

The commission's safety regulations have provided that drivers of trucks carrying explosives shall avoid "as far as practicable" driving through congested places. The new rule is designed to facilitate compliance with this.

It authorizes use of any practicable route to by-pass congested places, provided use of the by-pass route does not shorten the regular route by more than 10 miles. It also permits any two truckers authorized to interchange explosives inside a municipality to perform the interchange at any place within 10 miles of the municipality.

I.C.C. Dismisses Seatrain Jurisdictional Questions

A Seatrain Lines' petition aimed at clarifying I.C.C. jurisdiction over Seatrain-railroad relationships has been dismissed by the commission. The action was at the request of Seatrain, which has obtained the "clarification" from a United States Court of Appeals.

Seatrain came to the commission in December 1952, the aftermath of a district court ruling in New Jersey. That court said the I.C.C. had jurisdiction to entertain a Seatrain damage suit against railroads, and Seatrain asked the commission to clear up "uncertainties" created by the lower court's ruling (*Railway Age*, December 22, 1952, page 13). Meanwhile, the district court decision was appealed.

The court of appeals handed down its opinion on September 10, in which it said Seatrain's suit for damages can be handled in the courts. If found warranted, relief can be granted under anti-trust laws "without encroachment upon any area of commission concern."

Seatrain was advised that it may file a new complaint in the courts, and in view of this ruling the carrier on October 2 requested the I.C.C. to dismiss the December 1952 petition.

Meanwhile, the commission has ordered that further hearings be held November 17 at Washington in cases involving railroad tariffs which propose to restrict routings via Seatrain. This action was taken by the commission after it cancelled the oral argument which had been scheduled for last month. The cases are I. & S. No. 5979 and No. 30954. Originally assigned to Division 3, they were taken over by the entire commission after an examiner's proposed report had been issued (*Railway Age*, July 13, page 17).

WAYNE A. JOHNSTON, president of the Illinois Central, accepts the gold "Oscar" for the best 1952 annual report from Charles A. Thomas, president, Monsanto Chemical Company, which received the award last year.

Awards

Illinois Central Wins Gold "Oscar" for 1952 Report

The Illinois Central has been awarded the gold "Oscar of industry" for its 1952 annual report, which was judged best of all 5,000 entries in the annual contest sponsored by Financial World magazine. Wayne A. Johnston, IC president, accepted the "Oscar" on behalf of his company at the October 26 award banquet in the grand ballroom, Hotel Statler, New York.

Bronze "Oscars" for the best annual reports of railroads in their respective regions were presented to the Pennsylvania (central Eastern); Delaware, Lackawanna & Western (northeastern); Great Northern (northwestern); Seaboard Air Line (southeastern); Missouri-Kansas-Texas (southwestern); and Canadian National (Canadian). The IC also received a bronze "Oscar" for the best railroad report in the midwestern region.

"When we issue our annual reports," Mr. Johnston said in accepting the gold award, "we have an obligation to the economic system under which we live to strike a blow for profits. Our enemies in the world denounce profits as evil. Yet the profit system is at the heart of all that we are, all that we have. . . So let us tell the profit-system story and tell it with all the fidelity and all the integrity we can command."

"Today, American business is aware of its obligation to the general welfare and to the social needs of our people," Mr. Johnston concluded. "In turn, the American public gives more and more evidence of understanding the problems of business. It seems to have greater sympathy with business concerns and businessmen over the heavy tax load they bear. It disapproves of many restrictions government has laid upon business. . . Can we claim for our annual reports that they have brought about this blessed transformation? No, of course not. But if they have helped even a little bit, and I believe they have helped more than a little, they are worth all the effort we put into them."

"Safety's Challenge Lies Ahead"

We have probed deeply and learned much, but there are still too many accidents, L. L. White tells Safety Council group

"Even though our safety progress from 1922 represents better than a 75 per cent improvement in the employee casualty ratio, we still have a big job ahead of us," Lynne L. White, chairman and president of the Nickel Plate Road, told members of the railroad section of the National Safety Council at Chicago on October 21.

Reflecting upon the progress of accident prevention within the railroad industry since the beginning of the safety movement around the turn of the century, Mr. White went on to point out: "We have accomplished much in improving our equipment and properties. We have successfully taken the safety problem apart and have seen what makes it tick. We have developed statistics to indicate that roughly 90 per cent of our accidents are caused today by human failure. We have brought into being a great body of useful safety literature. We know much about safe methods and procedures. We have individually and collectively perfected a number of operating and safety rules. If applied, all of these ideas, rules and safe practices would practically eliminate accidents on our railroads. Yet we still have, in one year, 352 employees killed and 20,536 employees injured."

Key—Mr. White said "it's just one man's opinion," but that to him, the answer may lie in that first rule in most safety and operating rule books—"Safety is of the first importance in the discharge of duty." "It always seemed to me," he continued, "that this should be combined with the rule that nearly always follows it—'Obedience to the rules is essential to safety'—as the second is an essential complement to the first." Taking this rule and applying it first to "men on the ground" and then to supervisors, Mr. White made the following suggestions:

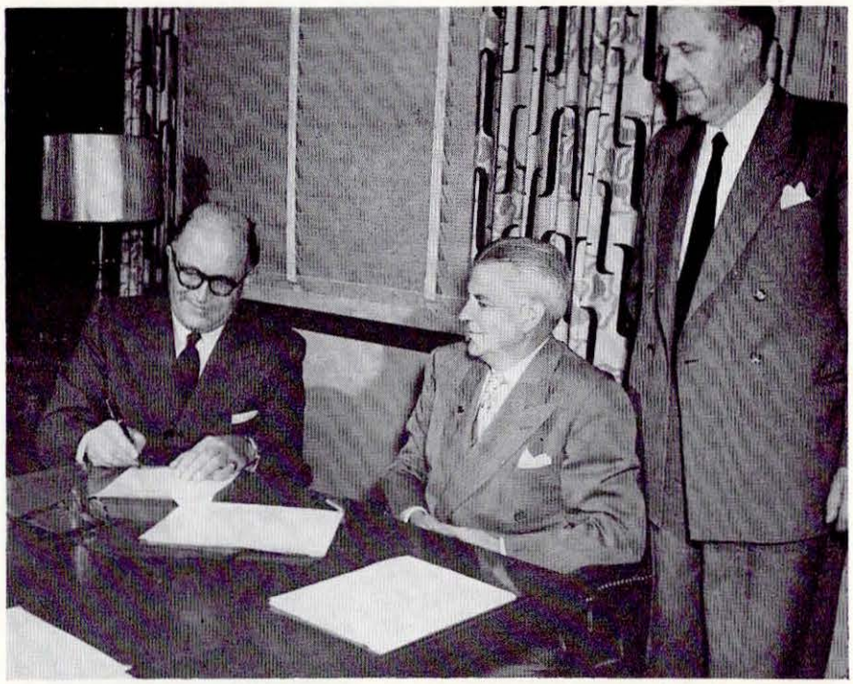
- "The man on the ground must learn to accept instructions and to ask questions about things he doesn't clearly understand."
- "He must not confuse knowledge with habit. Since his habits govern what he does, he must develop careful ones, not only by observing, thinking or understanding what is good for him, but by doing them over and over."
- "I have observed that many men get hurt because they either were not aware of what was going on around them, or were injured as the result of poor physical condition, rather than what might properly be termed an accident."
- "Many of our accidents are caused by people assuming things they have no right to assume. A man's attitude should properly be—'I know what I know, but maybe that isn't all I need to know in this case.'"
- The man on the ground can make a "regular, fresh and vigorous attack on the problem of safety by reducing it in size to one day at a time."

Supervisors, who in Mr. White's opinion "hold most of the keys to accident prevention," must:

- "Remember that safety is largely a matter of good human relations."
- "Remember the boss's main job is that of a teacher and trainer of men. The tone of voice used, and the manner in which you help them participate in finding the right answers, is all-important."
- "Remember that when you treat people the way you'd like and expect to be treated, you usually get excellent cooperative results—and you learn much that you would not ordinarily learn from your subordinates."
- "A good supervisor must be able to give clear, simple instructions. But more than this, he must be a good listener."
- "He must also commend men for work well done; give credit for suggestions; avoid playing favorites; try to make each man feel that his contribution is important; take time to make the new man feel he belongs to the team and introduce him carefully to the fundamentals of safety; explain safety rules repeatedly."
- "And he must make a daily inspection of tools and equipment—and check on his men."

"I, for one," he concluded, "won't be satisfied until our employee injuries and fatalities have been cut in half and then cut in half again."

41st Congress—Ned H. Dearborn reported briefly to members of the section on the parallel activities of the 41st National Safety Congress and Exposition, of which the railroad section meeting is a component. Attendence figure for the Congress topped 12,000, he said, with an unusually large attendence from foreign countries.



ELECTRO-MOTIVE IN WEST GERMANY.—Latest overseas locomotive manufacturer authorized to produce General Motors diesel locomotives, is 150-year-old Henschel & Sohn, G.m.b.H., of Kassel, Germany. Here, in the presence of N. C. Dezendorf (center), vice-president of General Motors and general manager of the Electro-Motive Division, Oscar R. Henschel, signs the authorization agreement on behalf of the West German firm, as Carl Frydag (right), a Henschel director, looks on.

Before World War II, the Henschel locomotive plant was the largest in the world and it remains today the largest in Europe. "The agreement provides for collaboration in design, manufacture and marketing of diesel locomotive types to be evolved," Mr. Dezendorf said. Manufacturing methods and locomotive design will follow U.S. practice although many important components will be manufactured locally. General Motors has similar agreements with builders in Australia, Belgium and Sweden.

Other speakers on the railroad section program were J. A. De Luca, Jr., safety superintendent of the construction division, E. I. du Pont de Nemours & Co., and Dr. Allen A. Stockdale of the National Association of Manufacturers. The section met for three afternoon sessions on October 20, 21 and 22. The final session was devoted to an open discussion of general safety problems by the entire membership.

New railroad members of the National Safety Council include the Chicago Great Western, the Duluth, South Shore & Atlantic and the Fernwood, Columbia & Gulf. W. H. Roberts, superintendent of safety of the Chicago & North Western, reported that member lines now include every railroad in U. S. and Canada with 800 miles of line or more—or 97 per cent of the total railroad mileage of both countries.

R. S. James, superintendent of safety and fire prevention of the Denver & Rio Grande Western, was named general chairman of the section to succeed R. C. Sabens, superintendent of safety of the Nickel Plate. The new vice-chairman of the section is F. R. Callahan, director of safety and compensation of the Pullman Company. C. T. DeWitt, superintendent of safety of the Northern Pacific, was elected secretary. L. E. Dutton continues as National Safety Council staff representative.

Traffic

C&O Establishes 5-Man Passenger Advisory Board

A Passenger Advisory Board to counsel with passenger-traffic officers of the Chesapeake & Ohio has been established by the railroad, according to Thomas J. Deegan, Jr., vice-president—passenger traffic and public relations. Because of the complex problems affecting railroad passenger business, the C&O feels it is essential to elicit an objective point of view such as would be provided by an independent panel of experts.

The C&O's board will consist of Merryle Stanley Rukeyser, financial columnist; Arne C. Wiprud, an authority on railroad mail, baggage and express problems; Michael DeZutter, food consultant; Garth Cate, former travel editor; and Charles Shipman, a security analyst.

"The passenger business of railroads must be considered in the same light as operation of a wholly owned subsidiary and not as an afterthought in the traffic department," Mr. Deegan said. "Every technique of modern merchandising, as well as twentieth century transportation methods, is essential in producing the two factors which will bring the passenger service of the industry to a break-even point, and, hopefully, into the profit column: Increased revenues and reduced costs."

Roads Will Pay Rent On Military Posts

Railroads occupying office space at military installations will shortly be assessed "reasonable charges" for such space and for the services they utilize. Some railroads have been paying such rental while others have not.

A study by the Defense Department developed that "no legal authority" exists by which free space can be accorded. As a result, the department has issued the following ruling, effective October 14:

"Representatives shall be assessed reasonable charges for space occupied and services utilized, the basis for such charges to be determined by the appropriate office or agency."

Details of this policy statement are now being worked out by the Army, Navy and Air Force, and are expected to become effective in the near future.

People in the News

Root, Erie Research Chief, Becomes D.T.A. Consultant

Eugene S. Root, Sr., chief of research for the Erie, has been appointed consultant to the Defense Transport Administration. The D.T.A. announcement said he will assist Administrator James K. Knudson "in making domestic transportation studies in connection with the mobilization readiness program of the Office of Defense Mobilization."

GEORGE W. LAIRD—who became secretary of the Interstate Commerce Commission on October 19. Mr. Laird has been acting secretary since August 31, 1952, when his predecessor, W. P. Bartel, retired. The new secretary has been with the ICC for nearly 43 years.

WHY THEY TRUCK

Lack of a private roalroad siding is an important factor in diversion of finished steel traffic to trucks, but is not as important a factor as others. The traffic manager for a large steel manufacturer recently made a three months' survey of his customers to find out why they prescribed truck delivery. Chief reasons were: (1) speed; (2) no shrouding necessary; (3) no overhead unloading equipment for handling shipments in open top cars; and (4) no siding. While 39 per cent of the customers receiving by truck had no rail sidings, 88 per cent of the tonnage which was diverted was consigned to the 61 per cent of the customers who *do* have sidings.

Perry M. Shoemaker Receives Citation

Perry M. Shoemaker, president of the Delaware, Lackawanna & Western, was one of 241 alumni of the University of Michigan's College of Engineering who received citations at a convocation in Ann Arbor, Mich., on October 23. The citation was awarded to Mr. Shoemaker "in recognition of his outstanding achievements and of his contributions to the development of the field of engineering."

Operations

Bar Harbor-Yarmouth Ferry Planned for 1955

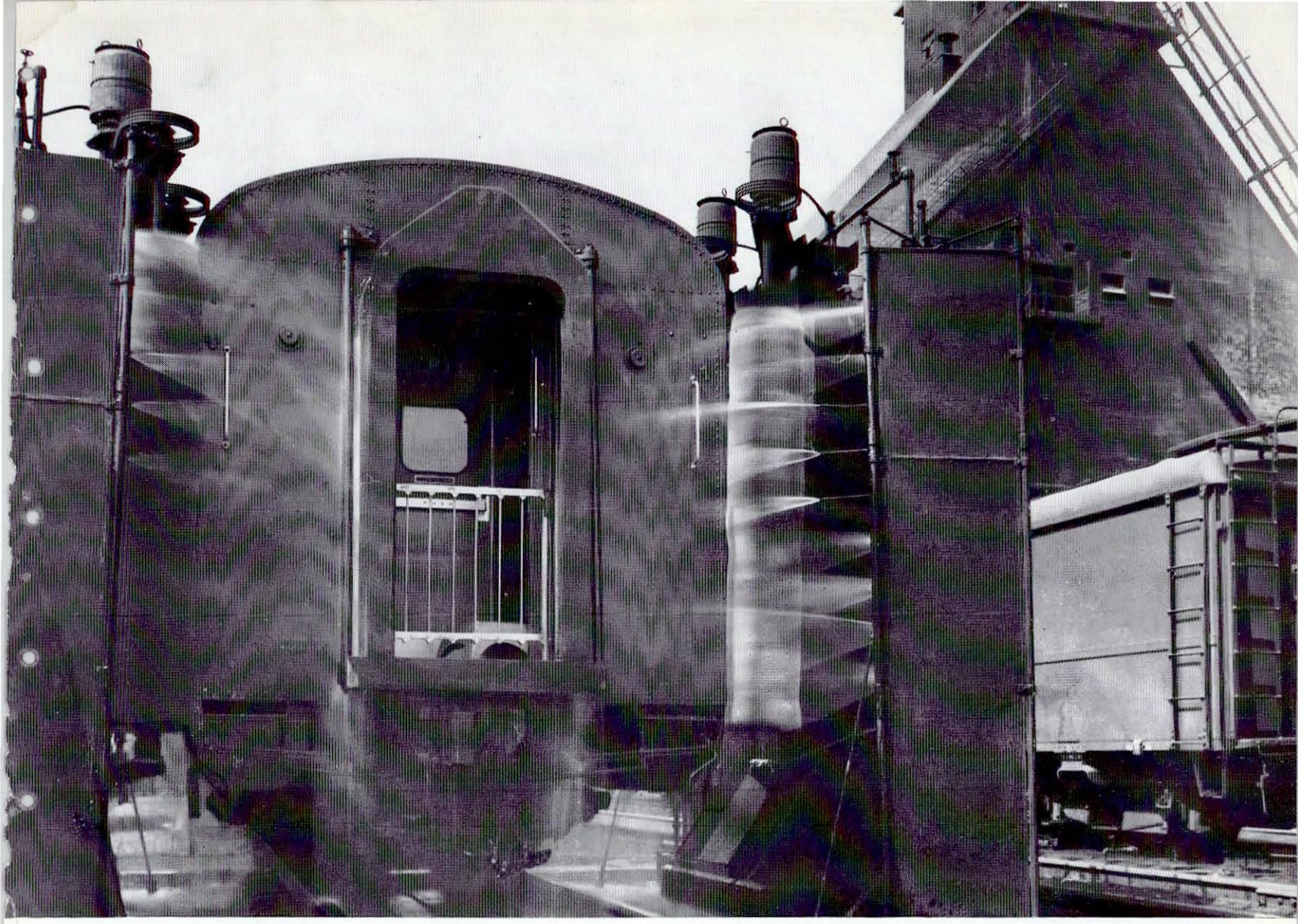
The Canadian National hopes to start ferry service between Bar Harbor, Me., and Yarmouth, N.S., in 1955, according to a report by H. C. T. Boyd, research engineer with the CNR's department of research and development. The project consists of two million-dollar terminals, one at Yarmouth and the other across the Bay of Fundy at Bar Harbor, and a $4,000,000 ship.

Construction of the ship, which will be able to carry 150 vehicles and accommodate 600 passengers, is now underway. Mr. Boyd said the ship and the Yarmouth terminal are being paid for partly by the Canadian government and partly by the government of Nova Scotia. The state of Maine is providing funds for the Bar Harbor Terminal.

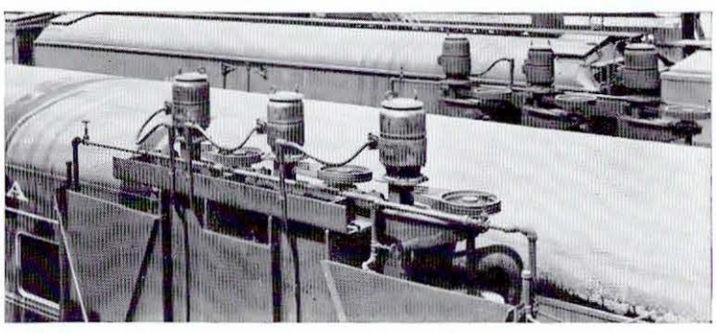
More Railroads Enter Per Diem Case at I.C.C.

Additional railroads have been authorized by the I.C.C. to intervene in the so-called per diem case now pend-

(*Continued on page 64*)



How G-E motors and control are helping railroads speed yard and shop service



G-E 2-hp and 3-hp induction motors driving this Whiting car washer have run 112 hours a week for 8 years, giving dependable service.

Two hundred cars a day pass through the Whiting car washer in the Pennsylvania Railroad's Pittsburgh yard. The washer is equipped with G-E fan-cooled induction motors, which run 16 hours a day, 7 days a week. Yet, a once-a-year lubrication inspection is the only maintenance required.

General Electric motors and control can add dependability and savings to your shop, yard, and terminal operations. Ask your G-E apparatus sales representative to help you select the proper G-E motors and control to meet your requirements. General Electric Company, Schenectady 5, N. Y. 152-52

You can put your confidence in—

GENERAL ELECTRIC

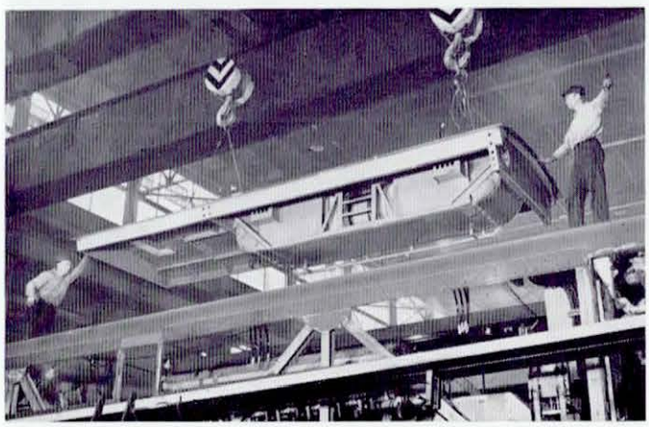
"Dynamic Braking saves up to 20 minutes on a single 120-mile run"

. . . says T. H. Evans, Chief Mechanical Officer, Missouri-Kansas-Texas Lines

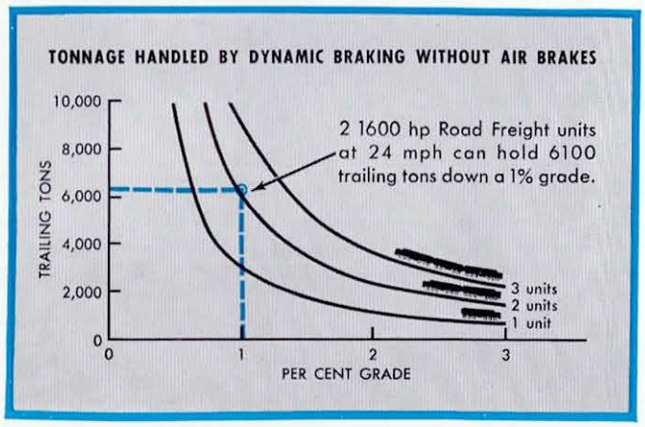
"On the Katy," Mr. Evans points out, "we use dynamic braking for speed control—even on flat terrain—to keep our freights moving faster by avoiding delays from automatic brake-release—for holding speeds *up* as well as *down*. This adds up to better service for our shippers, and lowered operating costs for the Katy.

"We instruct our engineers to use dynamic braking wherever possible—particularly on the longer, heavier trains. On some subdivisions we never use air, not even for yard stops. Dynamic braking keeps the cars bunched up well against the locomotive and materially reduces the number of break-in-twos. Since it varies only with the speed of the train, dynamic braking eliminates all other variables in braking any train—including the human element.

"What's more," Mr. Evans adds, "dynamic braking gives us 120,000 miles per wheel before the first turning. We almost never have to replace rigging, and our brake shoe wear is less than 25 per cent of what it used to be. *Alco's dynamic braking is particularly effective—it gives exceptionally flexible application and release and permits higher current rating.* On the Katy, we call dynamic braking 'the engineer's friend.'"



Extremely compact blower-resistor assembly — one of two main dynamic braking components—fits into locomotive roof hatch, out of way of other equipment. Unit dissipates energy from sturdy traction motors faster, more efficiently.



These curves show clearly the outstanding efficiency of dynamic braking on Alco locomotives. They are based upon 1600-hp road freight or passenger units moving at 24 mph with 65 mph gearing and cars averaging 50 tons each.

Alco

AMERICAN LOCOMOTIVE

Alco road freight diesel-electrics with automatically controlled dynamic braking speed service on the KATY

Alco Dynamic Braking Means Faster Schedules Over Any Kind of Terrain

- Alco dynamic braking offers you faster schedules plus speed control over flat terrain—in addition to exceptional braking power on steep grades.
- Alco dynamic braking greatly reduces the need for air braking—even for yard stops or on steep grades. Thus it (1) eliminates delays caused by automatic air-brake releases, (2) reduces costly, time-consuming break-in-twos, (3) eliminates stops to set retainers before descending steep grades, and (4) reduces number of stops required for routine inspection and wheel cooling.
- Peak rating of 900 amperes from traction motors on freight and passenger locomotives in braking operation—not exceeded by any other manufacturer—lets motor run constantly without overheating.
- Alco dynamic braking, besides making possible faster, smoother train handling, reduces chances of derailment through thermally cracked wheels.
- Alco automatic control assures accurate, constant braking effort at all speeds without overloading grids or traction motors.

SUPERIOR ADVANTAGES OF DYNAMIC BRAKING ON ALCO LOCOMOTIVES

. . . . Unmatched heat dissipation on dynamic braking equipment for holding larger tonnages smoothly on heavy grades.

. . . . Faster, more flexibly controlled release and response provide smoother train handling.

. . . . Accurate, constant braking effort *automatically* maintained at correct value without exceeding capacity of braking system.

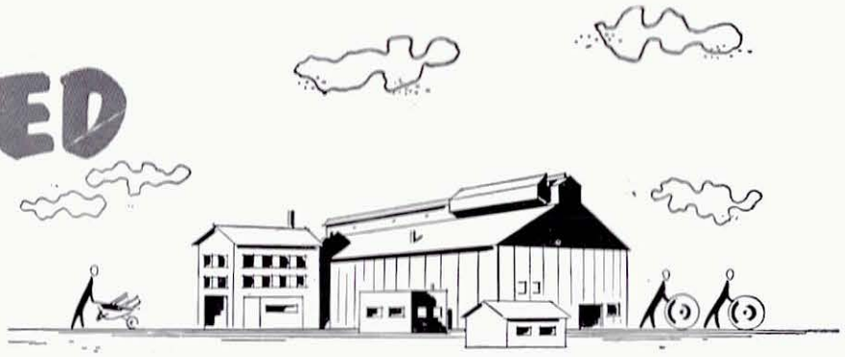
. . . . Each Alco dynamic braking unit is completely self-contained—dynamic braking equipment in any single unit of a multi-unit locomotive can operate independently of the others, thus providing greater safety.

COMPANY

Sales and Service Offices in New York, Chicago, Cleveland, St. Louis, San Francisco, and Washington, D. C.

Superior dynamic braking is but one of the many cost-cutting, efficiency-boosting features that make Alco diesel-electric locomotives *your best buy in motive power.*

NEW CHILLED CAR WHEELS



just for the price of conversion

Today, when worn wheels are turned in for new chilled car wheels under the Exchange Plan, there is no question about your getting the best value for your scrap metal.

When you swap scrap wheels for new ones, ton for ton, you pay only the conversion cost. In effect, we take your old wheel, melt it, and pour you a new one.

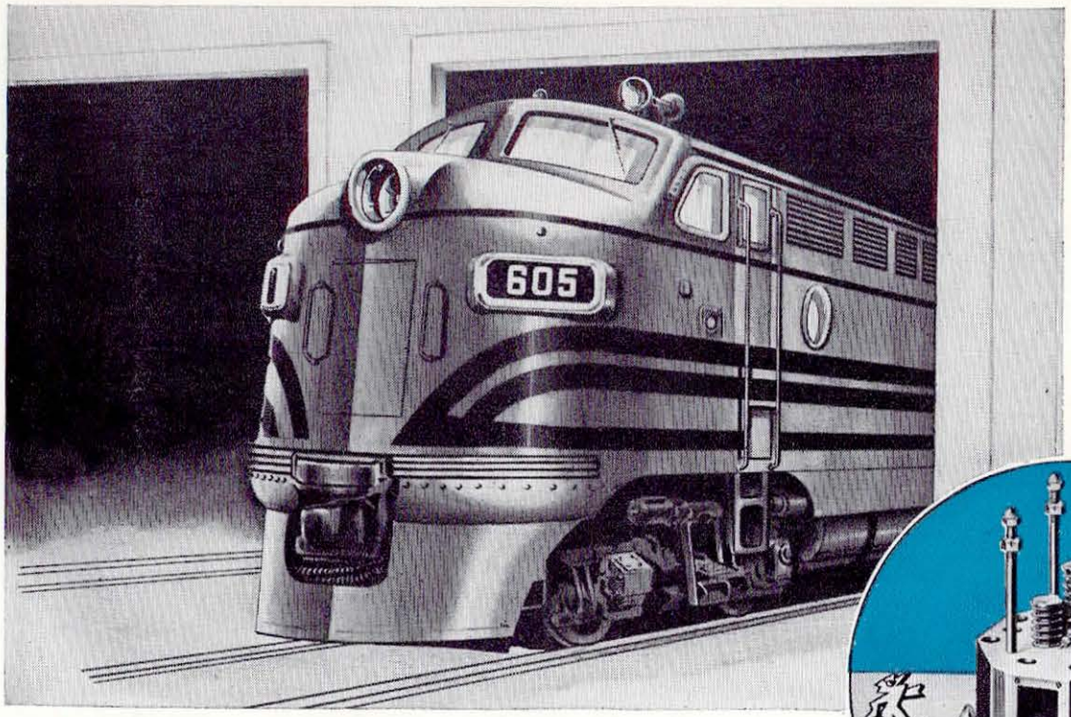
Besides this initial saving, AMCCW chilled car wheels save all along the line, throughout their long life. They reduce inventory requirements. They are easier to mount; they prolong brake shoe life; they insulate axles from shock; they reduce trackwork wear to the very minimum. Their safety record today is the best in their long history.

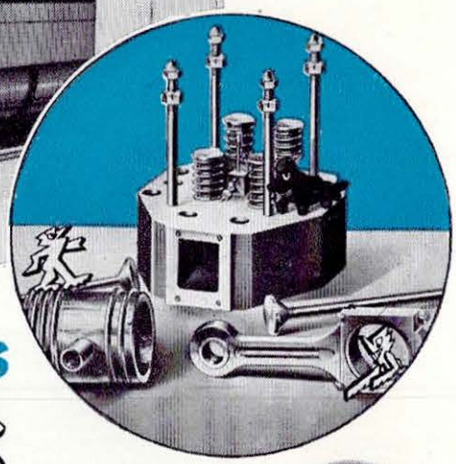
Because AMCCW plants are spotted throughout the country, the conversion plan is a practical one and means little or no foreign hauls for the railroads using the chilled wheel Exchange Plan.

In good supply
Available locally
Short-haul delivery
Reduced inventory
Low first cost
Low exchange cost
Increased ton mileage
High safety standards
AMCCW plant inspection
Easier shop handling

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS
445 North Sacramento Boulevard, Chicago 12, Ill.

Albany Car Wheel Co. • American Car & Foundry Co. • Griffin Wheel Co.
Marshall Car Wheel & Foundry Co.
Pullman-Standard Car Mfg. Co. • Southern Wheel (American Brake Shoe Co.)





Star Boarder in the Shops

because of WEARMITES

It's the WEARMITES in Diesel engine oil . . . those "engine termites"—Grit, Dirt and Tarry Sludge . . . that foul up running and maintenance schedules. Where there's dirty oil—there you'll find WEARMITES—and the sound, sure way to eliminate them is . . . WIX ENGINEERED FILTRATION.

WIX ENGINEERED FILTRATION provides prescription filtration for your lubrication needs with proven types of filter cartridges, designed and engineered to meet the varying conditions posed by passenger, freight or yard operation. You may choose between interlapped white cotton thread construction, colored cotton threads or a new WIX filtrant of finely divided, high rag content, felted paper — hydraulically packed. Thus, you can key *your* filtration practice to suit your running conditions and your filter change schedule . . . always keeping lubricating oil "in the pink".

Solve your filtration problems with WIX Railroad Oil Filter Cartridges. Keep engines *out* of the shops *longer* . . . running *smoother* . . . and enjoy the economy of WIX ENGINEERED FILTRATION. Write for full particulars today!

Precision construction . . . controlled density . . . uniform quality . . . self-contained sealing gaskets and many other WIX *plus* features add up to WIX Engineered Filtration. Whether for Lubricating or Fuel Oil, crush-proof, non-collapsible WIX Filter Cartridges show a decided dollars and cents advantage for you.

LUBE wix FUEL

RAILROAD OIL FILTERS

WIX CORPORATION • GASTONIA, N. C.

Warehouse Stocks in: Gastonia • Atlanta • New York • Chicago • St. Paul • St. Louis • Sacramento

To assure highest mileage and utmost safety at high speeds

"Nickel Plate Road" uses U·S·S MULTIPLE-WEAR WROUGHT STEEL WHEELS

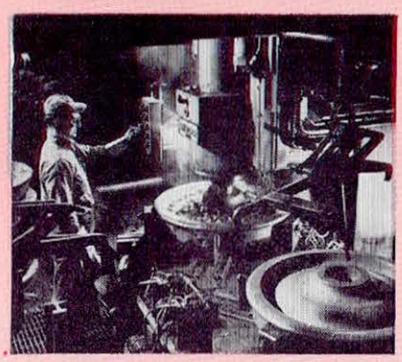
U·S·S WROUGHT STEEL WHEELS

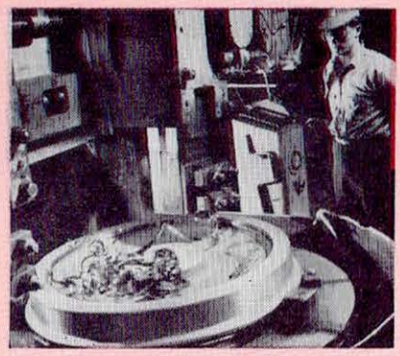
One-Wear Freight Car Wheels
Multiple-Wear Freight Car Wheels
Passenger Car Wheels

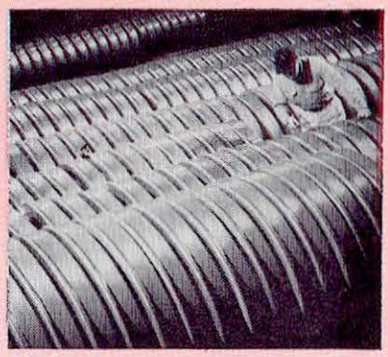
Diesel Locomotive Wheels
Steam Locomotive Wheels
Electric Locomotive Wheels

Tender Truck Wheels
Electric Transit Wheels
Crane Track Wheels

THIS IS ONE of 2500 70-ton hopper cars, equipped with U·S·S Multiple-Wear Wheels, built for the New York, Chicago & St. Louis Railroad in recent years. Their reputation for dependability in service has made U·S·S Multiple-Wear Wheels the favorites wherever heavy hauling is done.







Here are a few reasons why U·S·S Wrought Steel Wheels are better . . .

● On this recently developed semi-automatic wheel boring mill—the last word in speed and precision—wheel hubs are rough bored ¼" less than finished bore, or are finished bored to customer specifications.

● They're made right. On modern high speed machine tools like this, wheels are accurately machined to specified tolerances.

● A careful check of essential dimensions is the final inspection step that makes sure that U·S·S Wrought Steel Wheels meet customers' specifications. You get only the best.

on 3,000 70-ton cars

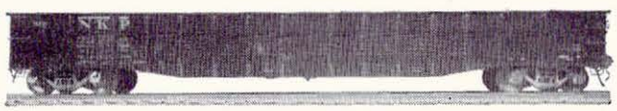
THE heavier wheel loads now carried, the greater distances traveled, and the high speed at which railroad equipment must move today have put a premium on wheel durability and safety.

That's why so many of the country's railroads like the New York, Chicago & St. Louis are installing U·S·S Multiple-Wear Wrought Steel Wheels on their heavy-duty equipment. These rugged wheels are good for the long run . . . *deliver more ton-miles per dollar than any other type wheel.* Here's why . . .

U·S·S Multiple-Wear Wrought Steel Wheels keep replacement cost *way* down. They're built to take the punishment of impact at high speeds and long, severe braking. Turned out in shops equipped with modern heat treating, forging and machining facilities U·S·S Wrought Steel Wheels are carefully controlled in every step of manufacture from the melting of the steel to the finished product. And they're backed by 47 years of wheel-making experience.

U·S·S Wrought Steel Wheels can be furnished either rim toughened or entirely quenched for other high-duty service. And two complete wheel shops—one at McKees Rocks (Pittsburgh), Pennsylvania, and the other at Gary, Indiana—make it possible to meet your requirements for steel wheels more efficiently . . . and more promptly.

The next time you order wheels for new equipment or for replacements, specify U·S·S Multiple-Wear Wrought Steel Wheels. No finer wheels are available anywhere.



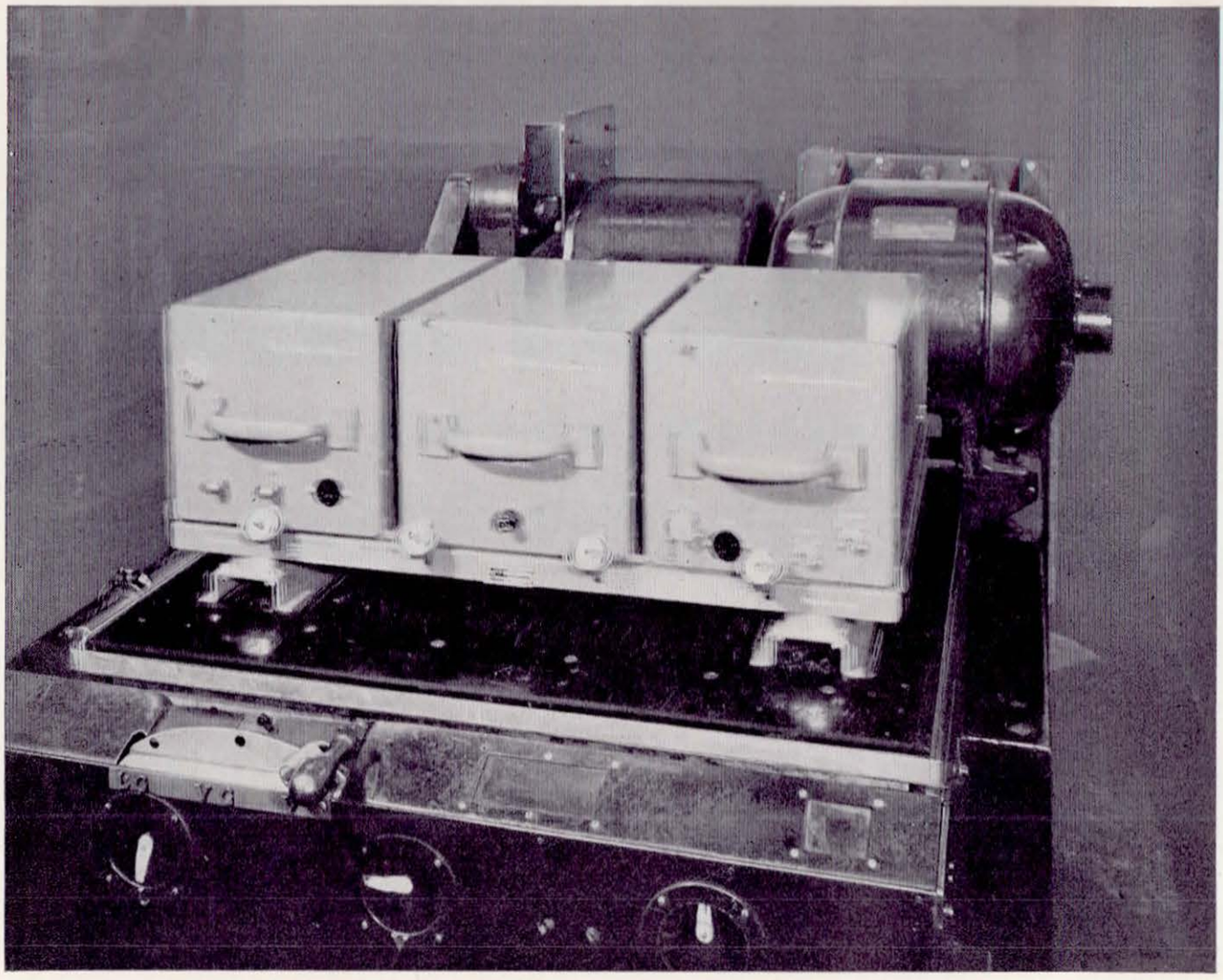
THIS IS ONE of 500 70-ton gondola cars built for the Nickel Plate Road. Because years of hard, fast service are ahead for this car, it rolls on long-life U·S·S Multiple-Wear Wrought Steel Wheels. You can't get any better.

UNITED STATES STEEL CORPORATION, PITTSBURGH, PA. · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S WROUGHT STEEL *High-Duty* WHEELS

2-966

UNITED STATES STEEL



SEVERE VIBRATION FAILS TO INTERRUPT RAILROAD RADIO SERVICE CONTINUITY

Type FE Equipment Again "Proved for Availability" in Westinghouse Test

To check railroad radio immunity to vibration from actual road operations, Westinghouse bolts Type FE equipment to a shaker table. While the radio is operating, the table is vibrated through a range of frequencies at amplitudes more severe than any encountered in actual operation.

During and after the tests, Type FE Railroad Radio experiences no difficulty. Receiver sensitivity and transmitter output are unimpaired . . . there is no hum or distortion . . . operation is unchanged. This sturdy, electrically sound railroad radio goes through test after test . . . each time emerges "proved for availability."

Westinghouse FE Railroad Radio is the only radio designed specifically and exclusively for railroad service. Over 60 years of practical service to railroad needs are represented in its modern design . . . in its ability to resist coupling shock, severe vibration and extremes of ambient conditions.

Under any conditions, Westinghouse FE Railroad Radio supplies reliable communications for any railroad need: end-to-end, train-to-train, train-to-wayside, for all yard and mainline operations. Examine Westinghouse Railroad Radio now. Write for full information to: Westinghouse Electric Corporation, Electronics Division, Communications Section, 2519 Wilkens Avenue, Baltimore 3, Maryland, or call your Westinghouse representative today.

YOU CAN BE SURE...IF IT'S **Westinghouse**

J-02267

Only the best valve you can buy is the right valve for your diesels...

BUY THOMPSON!

No matter how you look at it – from the standpoint of better engine performance . . . of fewer replacements . . . of overall operating economy – it's just good business to buy replacement engine valves on a *quality* basis. *And when you buy on quality, you'll choose Thompson!*

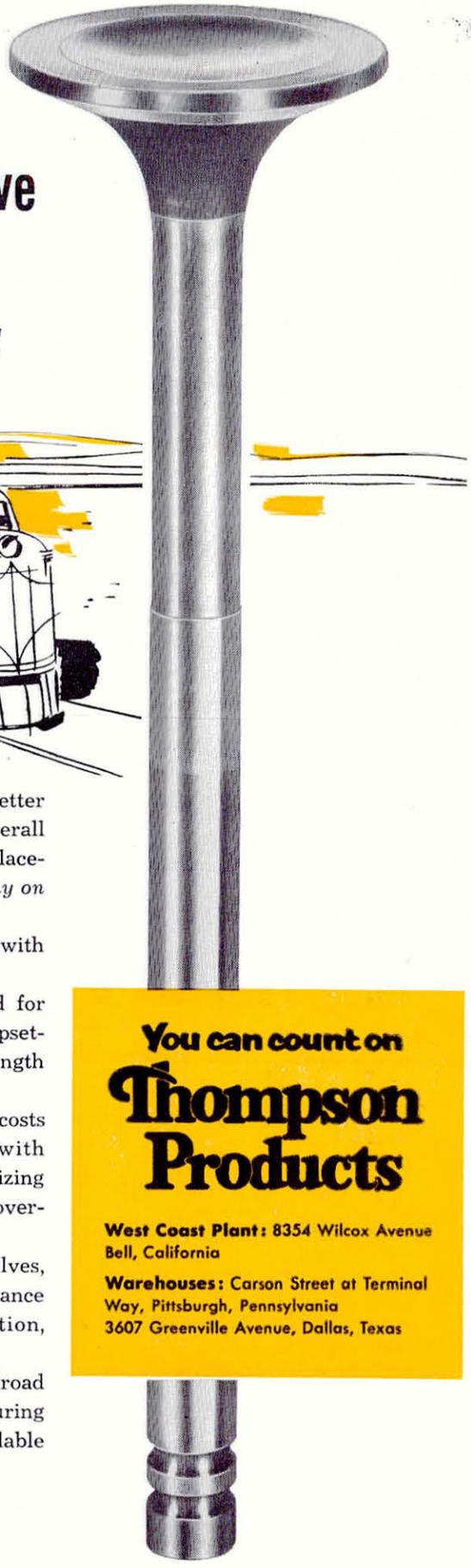
Point by point, compare the Thompson quality picture with any other in the field . . .

Better built – Thompson Valves are field-engineered for railroad diesels, and are built by our exclusive electric upsetting and forging method that produces the highest strength and wear-resisting qualities available in engine valves.

Longer Life – operators are reducing valve overhaul costs and keeping engines in service many times longer with Thompson Valves. Most leading railroads are standardizing on Thompson replacement valves for this very reason as overhaul costs increase.

Better Performance – Railroad diesels are tough on valves, but you'll find Thompsons giving peak valve performance month in and month out under every kind of condition, wherever railroads operate.

Thompson makes a complete range of valves for railroad diesel engines, backed by nearly 30 years of manufacturing "big valves for big engines." Stocks are immediately available coast-to-coast. *Send for detailed information today.*



You can count on

Thompson Products

West Coast Plant: 8354 Wilcox Avenue
Bell, California

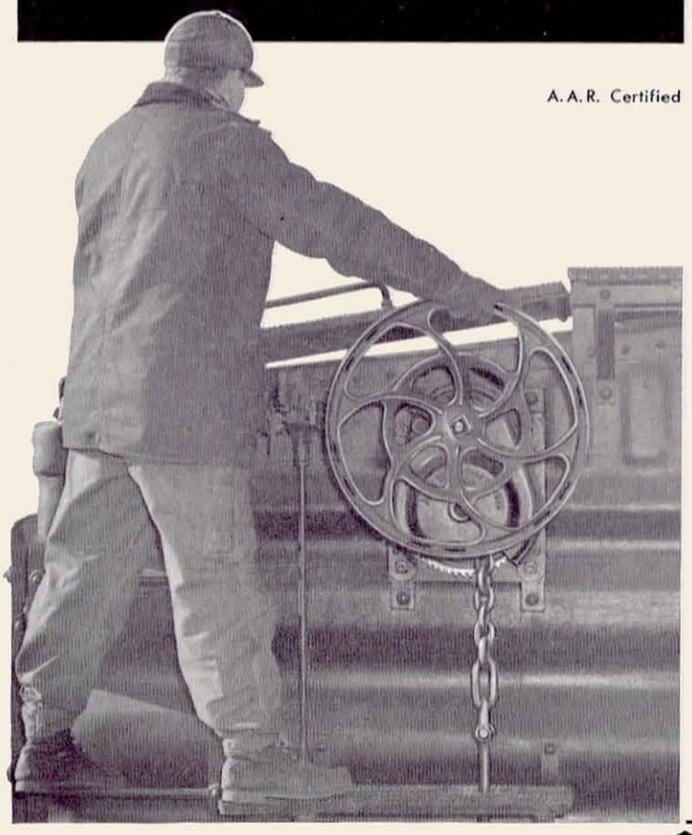
Warehouses: Carson Street at Terminal Way, Pittsburgh, Pennsylvania
3607 Greenville Avenue, Dallas, Texas

Equipco

Non-Spin...

WHEEL HAND BRAKE

A.A.R. Certified



Check!

- ✔ One-Hand Operation— Easy to Set and Release
- ✔ No Gadgets— Nothing to Touch but the Wheel
- ✔ Anchors Car Securely— No Rolling, No Car-Creep
- ✔ No Release Lever—No Explosive Release
- ✔ Quick Acting—Prevents "Car-Impacts"

Ask for an actual service demonstration of this excellent brake which protects trainmen, equipment, and lading. Leading railroads the country over are specifying "Equipco Non-Spin" for safety.

SAFETY DEPARTMENTS—write for free copy of "Hand-Brake Safety," 12 pages of important facts you should have.

Equipco Hand Brake Division
UNION ASBESTOS & RUBBER COMPANY

RAILROAD UNARCO INSULATIONS

Locomotive! Trainline! Air Conditioning! Freight and Passenger Car! Cold Water Lines! Whatever your insulating needs, you can look to Unarco with confidence.

Unarco brings you such famous names as **Wovenstone, Insutape, Insutube, Insubestos,** and years of progressive development in meeting railroad requirements.

"UNARCO" AND "EQUIPCO" ARE QUALITY MARKS EVERY RAILROADER KNOWS

UNION ASBESTOS & RUBBER COMPANY

332 SOUTH MICHIGAN AVENUE, CHICAGO 4, ILLINOIS

Doorway to good will

Baggage-laden passengers who have just finished wrestling with old-fashioned end doors are in no mood to write you testimonial letters. And their enthusiasm for train travel gets weaker every time they have to go through this routine.

Why not get rid of these barriers to good passenger relations? Install NP Automatic End Door Operators that do *all* the work of opening and closing — gently, smoothly, quietly — at the touch of a fingertip.

These simple, rugged Operators are typical developments of National Pneumatic's more than 50 years of leadership in the field of door control equipment. On new or remodelled coaches and Pullmans, on swinging or sliding doors, they make friends and influence passengers in your favor. That makes them very important equipment.

Write for Publication #1063, giving you complete details.

NP

National Pneumatic Co.

INCORPORATED

Equipment that improves passenger relations

BOSTON 19, MASS. • New York • Chicago • Dallas • Los Angeles
Philadelphia • Portland, Ore. • San Francisco
In Canada: Represented by Railway and Power Engineering Corp., Ltd., Montreal and Toronto

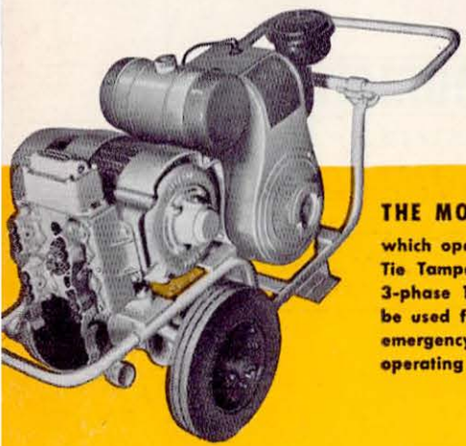
THE FACTS WILL SOUNDLY BACK Your 1954 Budget Recommendation of JACKSON MULTIPLE TAMPERS

On leading railroads throughout America it has been thoroughly established that the JACKSON MULTIPLE TAMPER will put up perfect track at less cost than can be achieved by any other means. Wide range usefulness is the secret of high annual production with real economy, in low to high track lift operations, in all ballasts. And, low-cost machine maintenance merits consideration, too. Write, wire or phone for any information desired.

JACKSON 2 to 4-TAMPER OUTFITS

For many years the choice of the vast majority of the nation's railroads. Ideal for low-lift and smoothing work with small gangs using 2 to 4 tampers. Also excellent for major ballasting or out-of-face operations since several may be grouped for this purpose. For maximum maintenance economy and top quality track include both the MULTIPLE and JACKSON HANDTAMPERS in your 1954 budget recommendations.

Their unique, vibratory action and quickly interchangeable blades make them peak performers under all conditions.

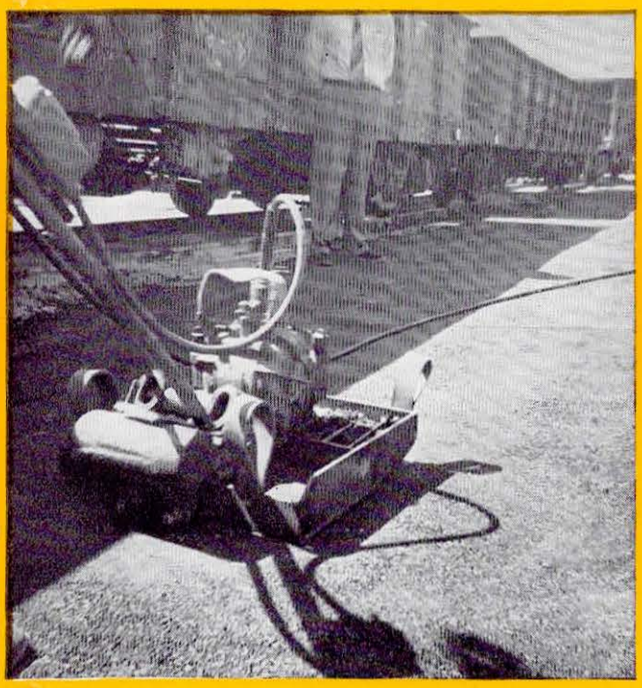


THE MODEL M-22 POWER PLANT which operates 2 to 4 Jackson Vibratory Tie Tampers supplies both single-phase and 3-phase 120 V. 60 Cy. AC, and may be used for emergency signaling, emergency CTC operations, lighting and operating various power tools.

ELECTRIC TAMPER & EQUIPMENT CO.
LUDINGTON, MICHIGAN
CANADIAN REPRESENTATIVES:
MUMFORD, MEDLAND, LTD., WINNIPEG, MANITOBA

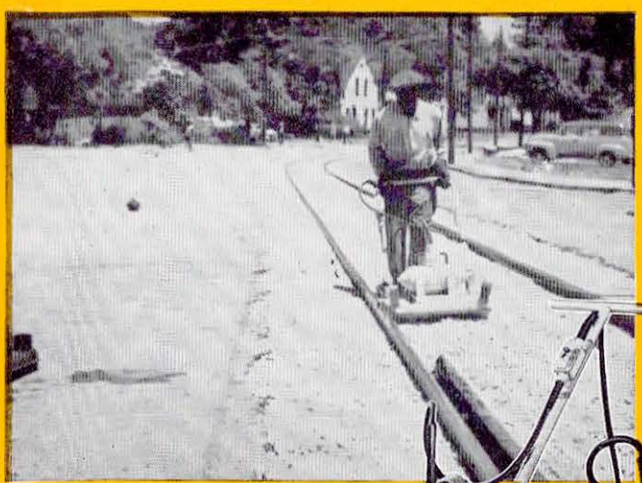
THE JACKSON VIBRATORY COMPACTOR

A VASTLY BETTER MEANS OF PAVING CROSSINGS and PLATFORMS!



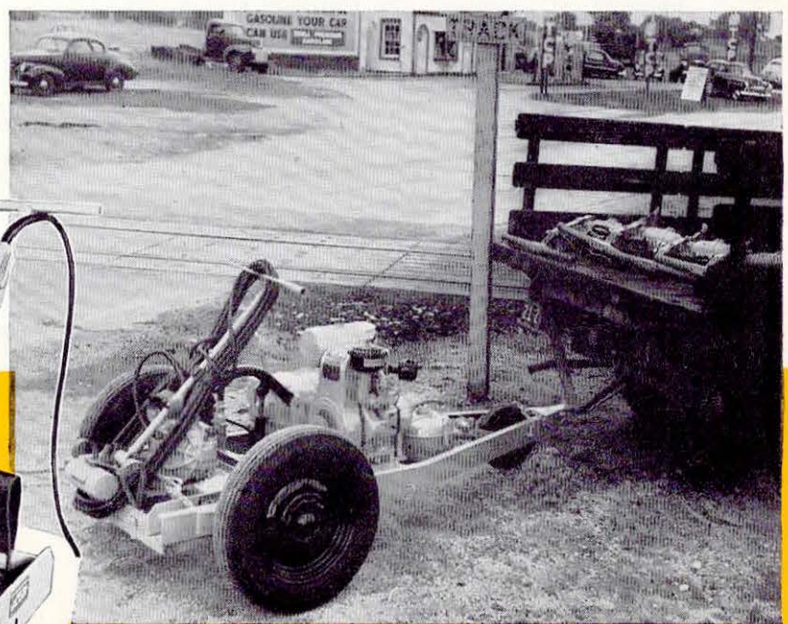
It's faster, more mobile and more convenient than larger, more expensive equipment. It's self propelling, delivers up to 4500 1¾ ton blows per minute and will compact bituminous mixes at the rate of 1800 to 2100 sq. ft. per hour close to theoretical maximum density, and it is equally effective in compacting granular soils and rock sub-bases. It operates on 3-phase, 110 v. 60 Cy. AC from a Jackson Power Plant mounted on an auto trailer equipped for quickly picking up and lowering the compactor. (Skid mounting of Power Plant is optional). It does a job that is unexcelled by equipment at any price, and because of its quick and easy maneuverability it is a tremendous time-and-money-saver. Write for the complete facts, NOW!

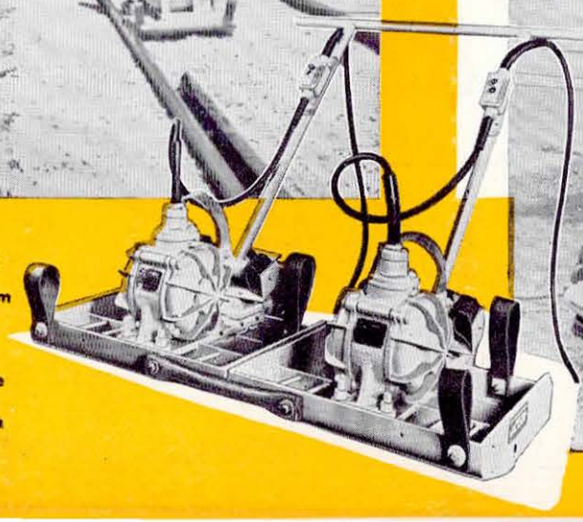
JACKSON VIBRATORS, INC.
LUDINGTON, MICHIGAN



THE JACKSON POWER PLANT

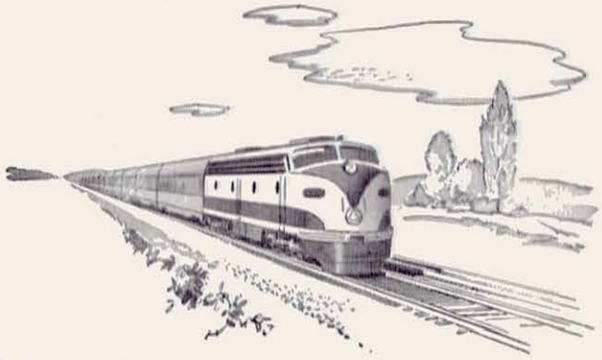
mounted on the trailer will also operate 4 Jackson Tie Tampers. Consequently, on those railroads having the track departments doing crossing work, the same crews can readily do the necessary raising work with 4 tampers carried on the truck that tows the trailer. Power Plant may also be used for light and operating power tools.



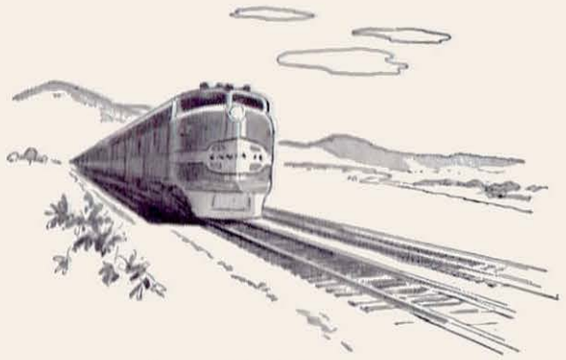


TWIN COMPACTOR UNITS

for side-by-side or in-tandem operation by one man, speed progress and halve labor costs on many applications. They may be disconnected and used separately as desired. Twin trailer unit is available.



Richmond, Fredericksburg & Potomac's crack diesel outside Richmond, Virginia.



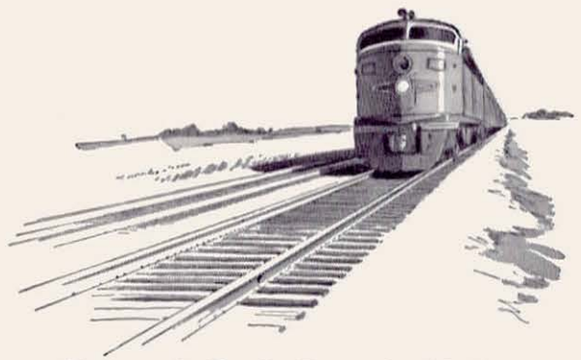
Santa Fe's "Chicagoan" eastbound between Cedar Point and Clements, Kansas.

Ribbonrail Service

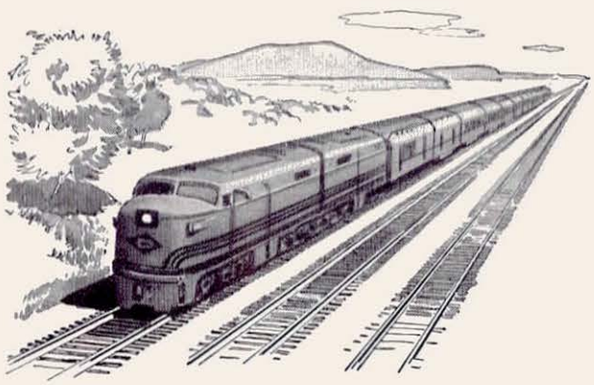
for open track high-speed traffic

Did you know that RIBBONRAIL Service is now producing miles of pressure-welded continuous rail for use in open main track? A few years ago continuous welded rail was used mostly in special locations such as bridges, station platforms, tunnels, and crossings. Cost-cutting performance of long rail in those locations prompted railroads to lay small "experimental" lengths in open track. These installations have proved their value. Now hundreds of miles of continuous rail — produced by RIBBONRAIL Service — are saving thousands of maintenance dollars for the railroads. Illustrated are just a few locations where RIBBONRAIL Service has made it possible for passenger and freight trains to glide smoothly over continuous rail many times a day.

Send for the booklet "Progress in Rail Pressure-Welding" for more information.



Chicago & North Western's "Gold Coast" between Missouri Valley and Council Bluffs, Iowa.



Lehigh Valley's "Black Diamond" at Royce, New Jersey.

OXWELD RAILROAD SERVICE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto

The term "Ribbonrail" is a service mark of Union Carbide and Carbon Corporation.

World's most powerful

wheel rolling mill

puts extra mileage in

Edgewater Wheels

Edgewater's exclusive forging and rolling process converts heated blocks, previously sliced from ingots, into rolled steel wheels. The powerful rolling mill makes it possible to do most of the mechanical work on the rim of the wheel by a rolling action which eliminates the necessity of intermediate heating and insures the uniform fine structure essential to long service life.

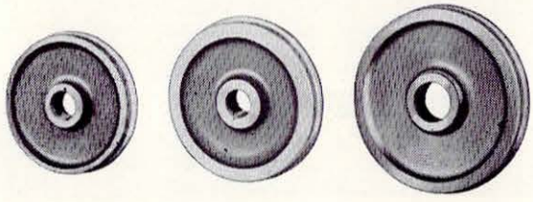
E

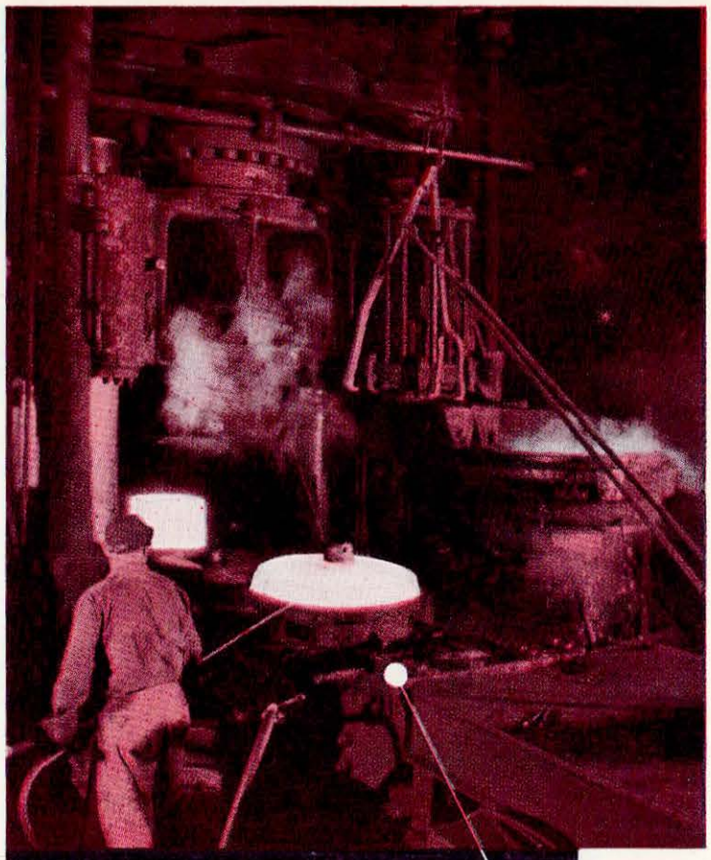
Edgewater Steel Company

P. O. BOX 478 • PITTSBURGH 30, PA.

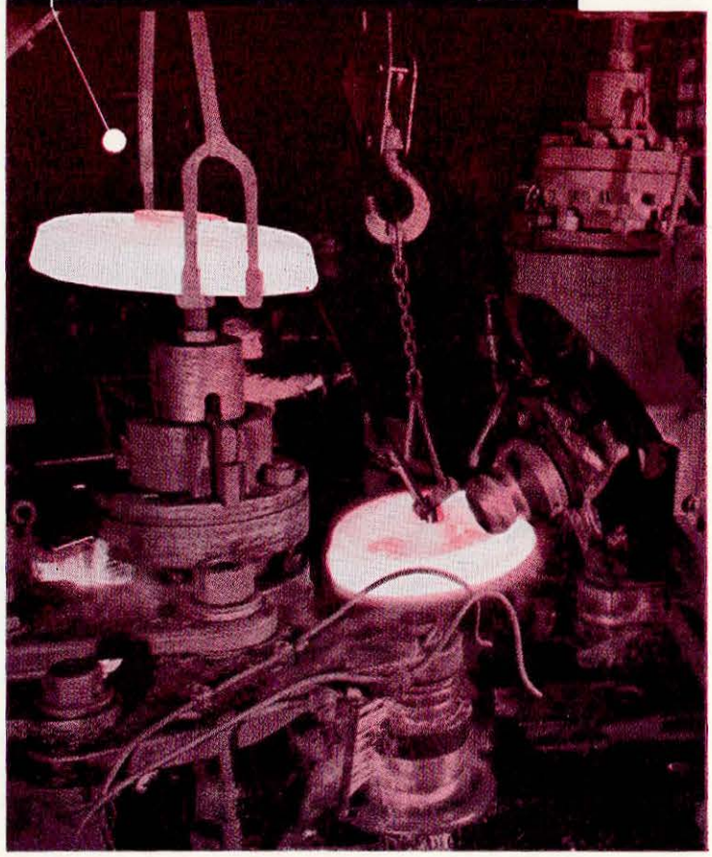
Makers of Rolled Steel Wheels

for Freight Cars Passenger Cars Diesel Locomotives





Above, in the background, a heated block is ready for forging into a blank. Completed blank is moved to rolling mill (below) where, as it revolves between rolls, the rim diameter is increased and the flange formed.



Why take the "hard way"?

when you can have:

Special Heat-Treated Alloy-Iron friction casting having 35 inches of friction-bearing surface.

easy to Assemble

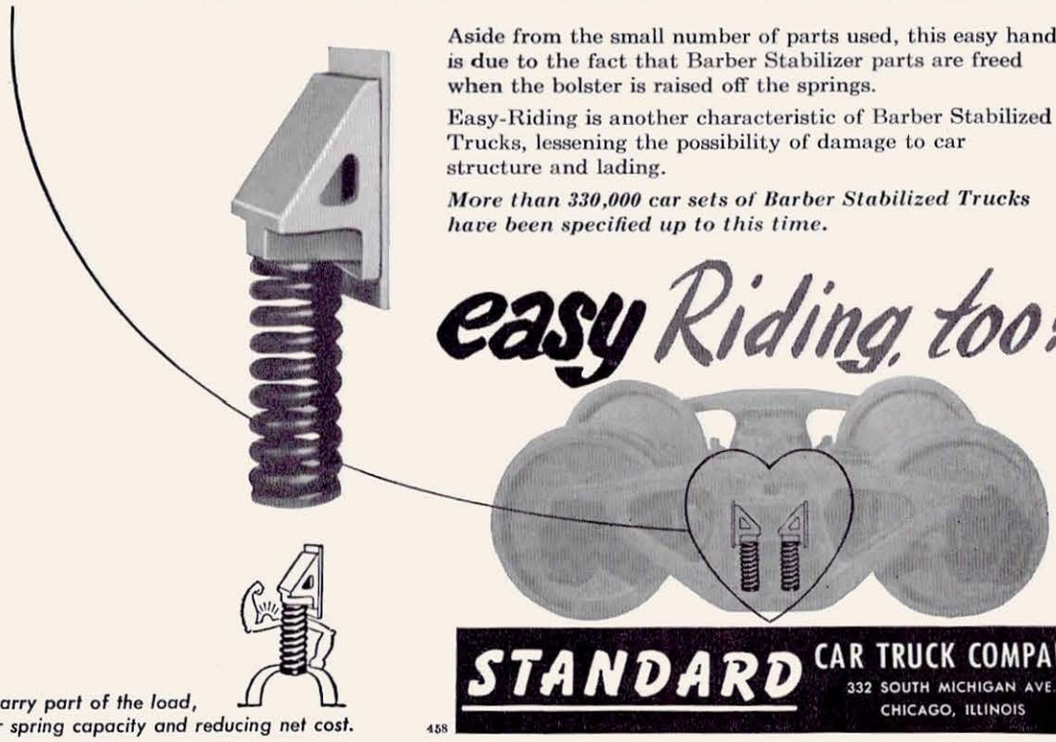
Spring-steel wear plate securely bolted or welded to the column.

easy to Dismantle

Friction-casting-supporting side-spring having a minimum ¾" initial compression.

easy to Service!

BARBER STABILIZED TRUCKS



Aside from the small number of parts used, this easy handling is due to the fact that Barber Stabilizer parts are freed when the bolster is raised off the springs.

Easy-Riding is another characteristic of Barber Stabilized Trucks, lessening the possibility of damage to car structure and lading.

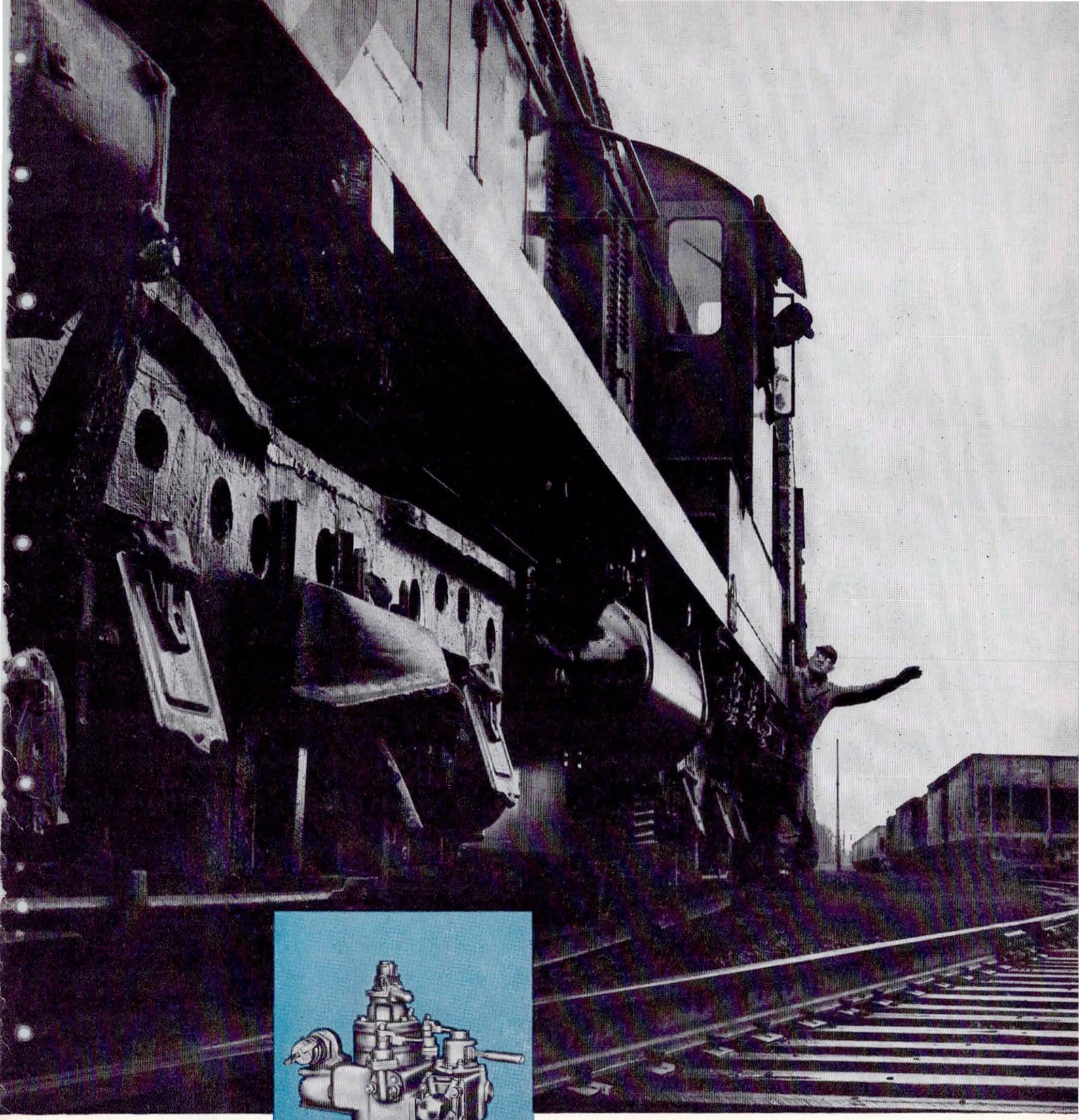
More than 330,000 car sets of Barber Stabilized Trucks have been specified up to this time.

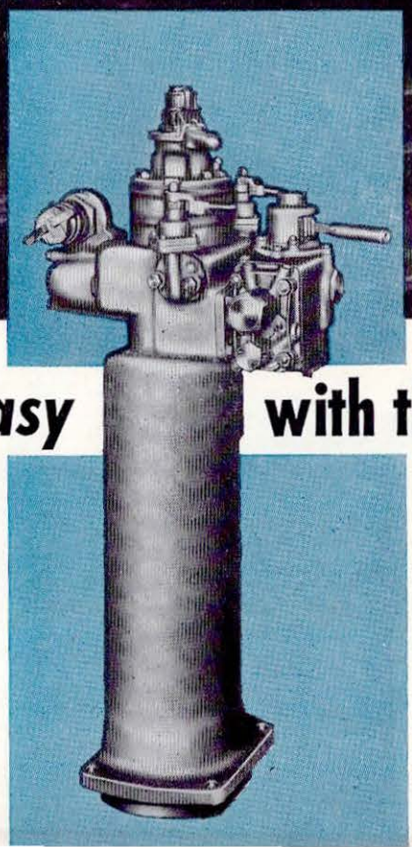
easy Riding, too!

Barber Side Springs carry part of the load, thus increasing bolster spring capacity and reducing net cost.

458

STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVE.
CHICAGO, ILLINOIS



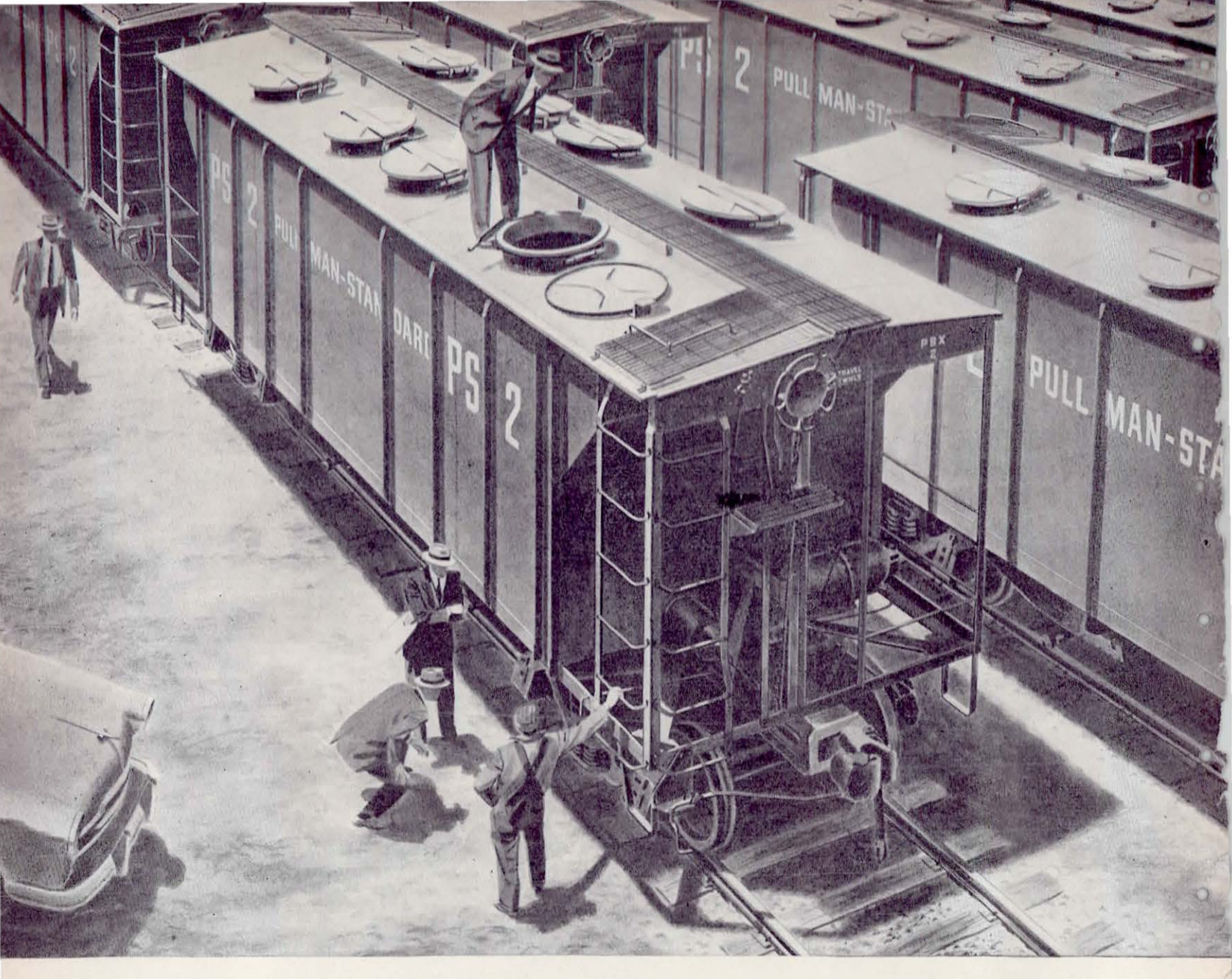


Set them off *easy* with the Westinghouse 6-SL Brake

The 6-SL Brake handles easily and responds quickly. With it, you can speed up your switching operations and still protect the lading.

Westinghouse Air Brake
COMPANY

AIR BRAKE DIVISION WILMERDING, PA.



THE PS-2 COVERED HOPPER CAR

The PS-2 Covered Hopper Car represents another Pullman-Standard achievement in freight-car standardization for dependability and economy. The design is new, and production includes extensive use of automatic arc welding.

In addition to the sturdier construction, characteristic of standardized freight cars, some of the PS-2's features include: improved circular hatches; smooth self-cleaning hoppers; and a sturdier, safer roof.

NEW BOOKLETS

Anyone concerned with Covered Hopper Cars, Box Cars or Hopper Cars will be interested in the facts, specifications and details contained in these illustrated booklets. Write for a copy of any one or all three.

LOOK at these standardized cars

Like the PS-1 Box Car and the PS-3 Hopper Car, the PS-2 Covered Hopper Car is the result of tested design and continuous production.

This means that railroads are benefiting from top-quality freight cars produced more economically.

These standardized cars include the advantages of continuous production and the economies of specialized tools and techniques.

Their stamina and continual improvement are influenced by "on-line" checking by Pullman-Standard Sales and Service engineers and laboratory testing by Research and Development engineers.

Features of the new PS-2s are many: new all-around strength; special welded design that means quick, clean unloading with no material retaining ledges, projections or structural pockets; and new center pressure locking hatch covers, on the circular hatches, add weather protection.

PS-2 design allows this car to be adapted to a three or four-hopper car for the transportation of various bulk commodities.

1,405 PS-2 Covered Hopper Cars have been bought by ten railroads—an indication that standardized cars are a sound, revenue-building investment.

YOUR NEEDS CREATE THE PULLMAN "STANDARD"

PULLMAN-STANDARD

CAR MANUFACTURING COMPANY

SUBSIDIARY OF PULLMAN INCORPORATED

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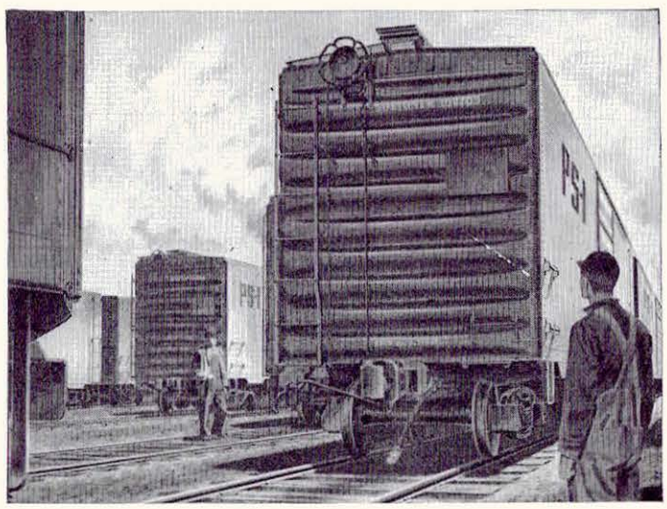
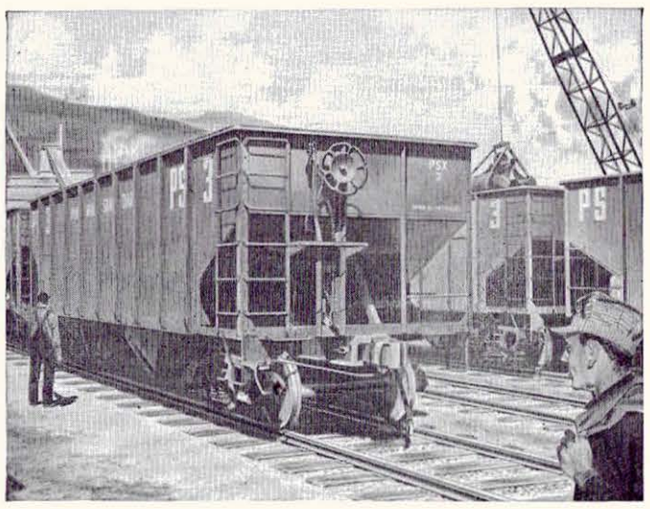


THE PS-1 BOX CAR

The PS-1 is a good example of the progressing standard which is so important in the successful operation of these cars. Pullman-Standard Research and Development engineers have never stopped testing, proving and improving the standardized PS-1. They continue to anticipate the railroads' needs for better, more economical freight cars. Under laboratory control, Research and Development technicians reproduce service hazards. The cars are subject to conditions more severe than those actually ever encountered.



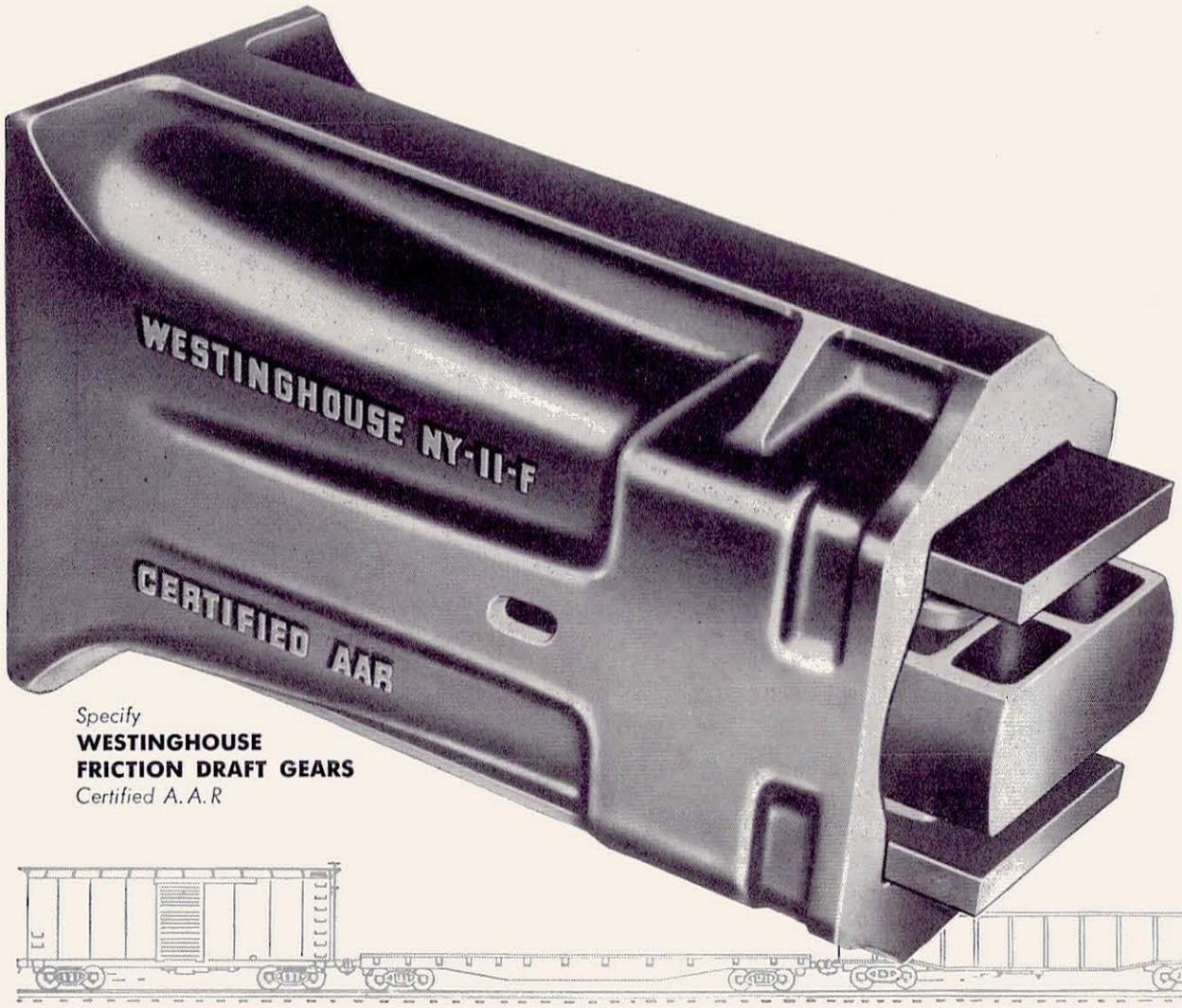
THE PS-3 HOPPER CAR

The specifications of the PS-3 resulted from a thorough inspection of virtually every type of hopper car in service, and from a study of the effect, on the cars, of current handling practices. They incorporate proven advantages, omit potential trouble spots.

Among the objectives set for these cars were three which dictated welded construction: maximum strength at all vital points, maximum corrosion resistance, and smooth interiors for fast loading.

protection

for cars and lading



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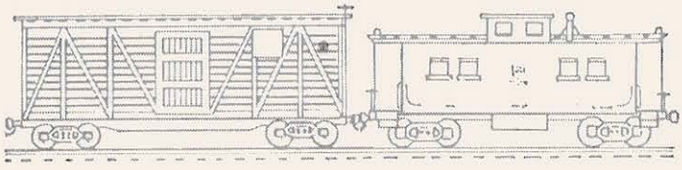
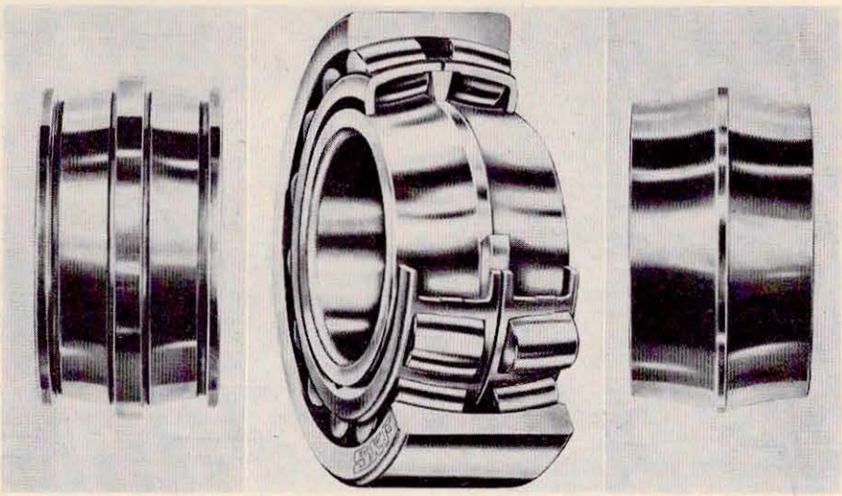


CARDWELL FRICTION
BOLSTER SPRINGS
Short or Long Travel

288R

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

What's New in Products



CHANGES in SKF roller-bearing design. At the left is the conventional spherical roller-bearing inner ring with flanges and adjacent undercuts. A section of the assembled Type C bearing is shown in the center. At the right is the new inner ring, without undercuts or flanges.

Improved Bearing Increases Capacity and Service Life

Increased anti-friction bearing capacity of from 25 to 50 per cent, and service life 2 to 3½ times longer than formerly possible, is now obtained with SKF's improved design of spherical roller bearings. This performance improvement has been accomplished without change in size or weight.

The inner race of the improved bearing is a new design without undercuts and integral flanges. Its capacity is increased because longer rollers are used, with more effective contact between rollers and rings, in the larger area provided by the new design. A separate guide ring, between the two rows of rollers, allows them to take the position which their contact with the rings dictates. Load distribution is uniform and increased capacity and life result.

Each row of rollers is held in a window-type cage made of high-strength, cold-rolled brass. Each cage centers on two large areas, one directly on the inner ring—outside the rollers—and the other on the outside diameter of the guide ring.

The new bearing offers equipment designers an opportunity to effect economies as the desired life can be obtained, using bearings of the same size, but under more severe loading conditions, and getting steadier operating performance.

Where combined loads are present, the improved spherical bearing is said to be capable of carrying heavier combinations of radial and thrust loads, or pure thrust loads of greater magnitude.

The rolling self-alining feature, invented and developed by SKF, has been preserved so that considerable misalinement between the shaft and housing has no ill effect on bearing capacity or life.

The improved spherical roller bearing, designated as the Type C, is available in Series 222 and 223. A booklet giving specific sizes available, added capacity size by size, increased life for each size, dimensional tabulations, and load and speed data, may be obtained from SKF Industries Inc., Dept. 616A, Philadelphia 32, Pa.•

SELENIUM rectifier d.c. arc welder

Selenium Rectifier D.C. Arc Welder

A selenium rectifier d.c. arc welder has been developed by the Westinghouse Electric Corporation, East Pittsburgh, Pa., that incorporates the characteristic advantages of static, plate-type rectifiers with less weight and size, and, according to the manufacturer, with greater ease of maintenance and wider versatility and user convenience.

Consisting essentially of two parts, the welder is made up of a three-phase, full-wave selenium rectifier, and of a so-called Transactor unit, which is a combination three-phase transformer and movable core reactor. The Transactor unit has resulted in a smaller, lighter, more convenient current control and voltage step down device. It has two, three-phase laminated cores. One is a fixed core on which the primary and secondary coils are wound. The other is divided into two parts—a stationary core, and a movable core. The legs of the movable core are linked by the common secondary and reactor winding.

The movable core is supported by guides on the welder side members. Two acme screws supported by the stationary core section drive the movable core by means of a hand crank on top of the welder. Current is controlled by moving the core section in and out of the Transactor unit coils. When the movable core is at a maximum distance from the stationary core, the welder output current is maximum. Minimum current is obtained when the movable core is close to the stationary core.

Coils are made of aluminum. Glass-covered, Class B insulated aluminum conductors have made this possible. The Transactor unit construction has eliminated the internal connections that would be necessary to tie transformer and reactor together if they were two separate units. Crimp-type copper terminals are used for coil end connections. A special compound is used between the aluminum conductors and copper terminal to insure low contact resistance for the life of the unit. The aluminum coils reduce coil weight by a ratio of about 2 to 1.

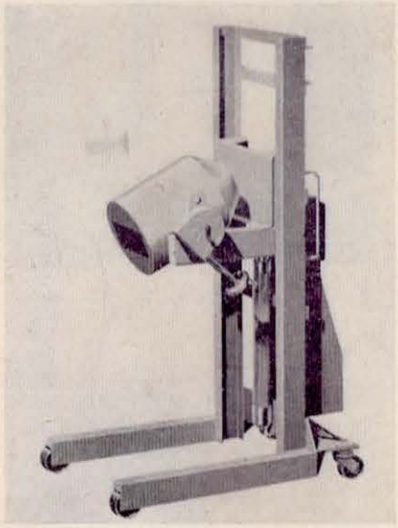
Through the use of aluminum for Transactor unit coils and other design modifications, the weight of the units has been reduced, for instance from 510 lb. to 400 lb. on a 300-amp. welder.

Axial flow ventilation is used on the new welder with the fan located in the top of the unit and the air intake located at the bottom. The upward flow of air follows natural convection and results in maximum cooling with minimum size cooling fan and motor.

The three standard units of this

welder are of the 200-, 300-, and 400-amp. sizes; duplex models are available in 300/600- and 400/800-amp. ratings.

The manufacturer states that the efficiency at rated load for a 300-amp. welder is 66 per cent, as compared to 54 per cent for an average motor-generator welder. The power factor, at normal operating load conditions, is comparable to induction motor-driven welders•



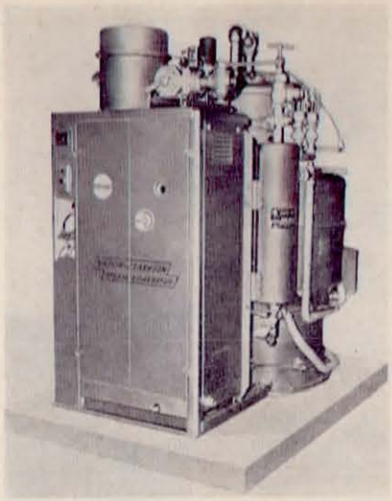
Radiographer's Shield

Technical Operations Incorporated, 6 Schouler court, Arlington, Mass., has announced the design and production of the DES, a portable directional exposure shield for the safe handling of strong sources of Cobalt 60 for industrial radiography. The DES can be used for thick or thin sections, from six inches or more down to only a fraction of an inch of steel, brass, bronze, etc. This equipment functions to shield all radiation from a gamma source except a beam, which may be directed only at the area to be exposed. During the exposure, the radiographer is perfectly safe in the immediate area as long as he is outside the actual beam.

The Cobalt 60 is moved into or out of position merely by rotating a handle through 180 deg. When the source is retracted, the shield serves as a storage container. No specially constructed shielded room is required for exposures.

The DES is ruggedly constructed of heavy-gage steel filled with lead. It is mounted on an easily portable castered lift truck, with either hand or electric power lifting. All models are 3½ ft. long, 2½ ft. wide and 6 ft. or more high depending upon the model.

Exposure calculations are simple. The source may be raised to 56 in. or lowered to 12 in. from the floor. The beam may be varied from straight up to 45 deg. below the horizontal. No power is required, except for a lift truck on the electric hydraulic model•



Dual Fuel Steam Generator

Vapor Heating Corporation, Chicago, has developed a Vapor-Clarkson steam generator that can be changed from fuel-oil to natural gas fuel by flipping one switch and without interrupting steam output.

The fuel-oil spray nozzle is incorporated into the metal body of the gas burner. When the fuel selection switch is changed from natural gas to oil, the motorized gas valve closes and the fuel-oil solenoid valve opens, releasing oil under pressure to the spray nozzle. Fuel oil is always ready to be released to the combustion chamber because it is continuously circulated through the steam generator's hydraulic modulating controls. A constant spark and pilot light insure positive lighting.

This Vapor-Clarkson steam generator, Model OKJ-4740, develops full working steam pressure up to 300-lb. pressure in less than three minutes from cold water, and makes 1,500 to 5,000 lb. of steam per hour. It is said to be over 80 per cent efficient.

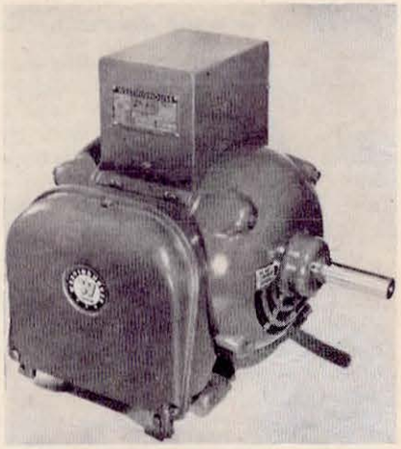
Once started, by turning one switch, automatic controls take over, causing the steam generator to turn on and off and modulate steam output to meet a changing steam demand. The steam pressure is changed from 10 to 300 lb. pressure by turning one control.

Several protective safety controls, such as steam temperature limit control low water shut off; two safety valves, overload relays, electric eye, and others, are built into the generators, which are made in accordance with A.S.M.E., Hartford and Underwriters specifications.

This steam generator is offered in a complete package which includes the 7½ hp. electric motor, blower, feed water pump, steam separator steel coils, and all controls, in a trim cabinet. A fork-lift truck can pick up the entire machine, which weighs about 6,000 lb. and is about one-fourth the size of a conventional type boiler.

By making electrical, steam, fuel, and water connections the unit is ready for operation •

THE "TRAVELER" SMOKING STAND can be equipped with glass holders which have molded rubber rings on the inside circumference. The hinged top is lifted to permit servicing. The stand is produced by Campbell Products Company, Chicago.



Capacitor Motor

A single-phase motor that is both capacitor-start and capacitor-run is available from the Westinghouse Electric Corporation, Pittsburgh, Pa. Called the type CAP-2, the motor is made in 5-, 7½-, and 10-hp. ratings, and is a 4-pole, 220-volt, 60-cycle motor.

Capacitor-run motors operate efficiently at near-unity power factor, and their design is such that starting current is reduced about 25 per cent, with the same high starting torque. The auxiliary winding remains in the circuit during operation and is in series with the running capacitors. Relays merely remove the starting capacitors when the motor approaches full speed. The main winding is directly across the line.

Elimination of the wound rotor, brushes, and commutator of the previous repulsion-induction design makes for a simpler motor with less maintenance •

Diesel Switcher
Kansas City Terminal Railway Company

Kansas City Terminal Railway sets pace for hard, fast switching with help of...

Working on a 24-hour schedule, the Kansas City Terminal Railway keeps freight and passenger traffic moving without delay through one of the Midwest's busiest railroad centers. In addition to its general freight switching activities, this Company serves the big Union Station and switches the passenger equipment for the 12 proprietary lines.

Such heavy-duty switching service has called for continuous and reliable operation of diesel switching locomotives. Effective lubrication by STANDARD HD Oil has contributed to the efficiency of these locomotives. Used since 1947, STANDARD HD has provided convincing evidence of its ability to keep engines clean and protected in severe service.

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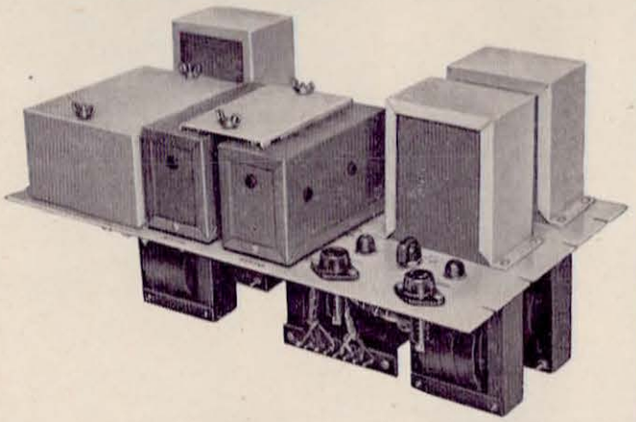
On more than 70 railroads, STANDARD HD has likewise demonstrated its ability to provide effective lubrication in all types of diesel locomotives and in all kinds of service. Make this acceptance of STANDARD HD the basis for trying this outstanding heavy-duty lubricant in your diesel locomotives. A Standard Oil Railway Department representative will be glad to help you. Write, Standard Oil Company, 910 South Michigan Ave., Chicago 80, Ill.

STANDARD OIL COMPANY

STANDARD

(Indiana)

ANOTHER C-D "FIRST"



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- Incorporates input line filter.

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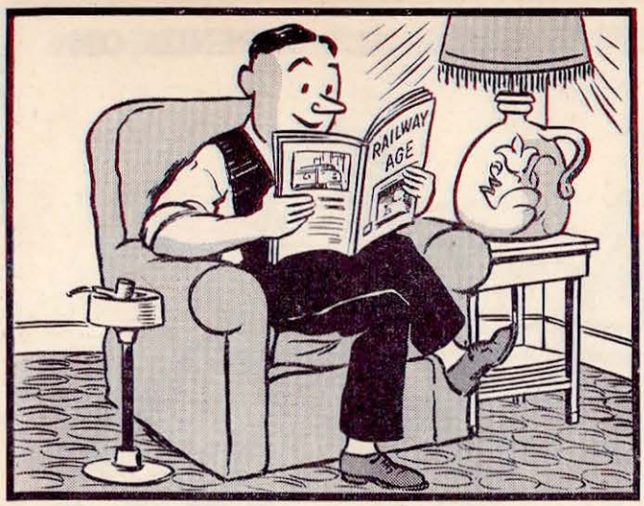

A new railroad man named Joe
Strived to do his job just so
To Railway Age he went
O'er its pages he bent
Now he's chief of the Tariff Bureau

Some time ago, Joe made quite an observation. From reading *Railway Age's* personnel columns, he noticed a lot of changes being made constantly — promotions, transfers, retirements, deaths.

To him, this spelled out one thing: There's plenty of opportunity in railroading. Right then and there, he made up his mind as to what he wanted. And he got it!

His first step was to enlist the aid of *Railway Age* through a personal subscription. He charged the editors with the responsibility of giving him *all* the railway news every week — *all* the important developments throughout the industry — information which would put him among the best informed railway men. He insisted on reportorial accuracy, authority, and completeness.

That he always renews his subscription upon expiration is proof that his demands are met.

Look at the personnel columns in this week's issue. *There's room for you* further up the ladder of railroading success. But follow Joe's example: Get *Railway Age* coming to you *at home* for more thorough, more leisurely reading. Send in your order today!

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30 Church Street, New York 7, N. Y. Att'n: R. C. Van Ness
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This week's limerick winner is Miss L. Reynolds of Baltimore, Maryland. Another $5 is waiting for your limerick if we use it.

Benchmarks and Yardsticks

OUR CONTEMPORARY, BUSINESS WEEK, in a recent issue published an analytical report on "Tomorrow's Management," which it has distributed as a reprint, and in which it attempts to predict what kind of problems industrial management will be faced with in 1980; in short, just what kind of future present management should prepare for and train men for.

This report doesn't foresee continued growth of organizations in terms of people employed. Output will doubtless increase, but people employed by big companies may well diminish because of the growth of automatic production processes. The editors believe that management methods will continue to improve—with considerably more decentralization of authority than now, often, prevails; but with *some* basic decisions still made "at the top."

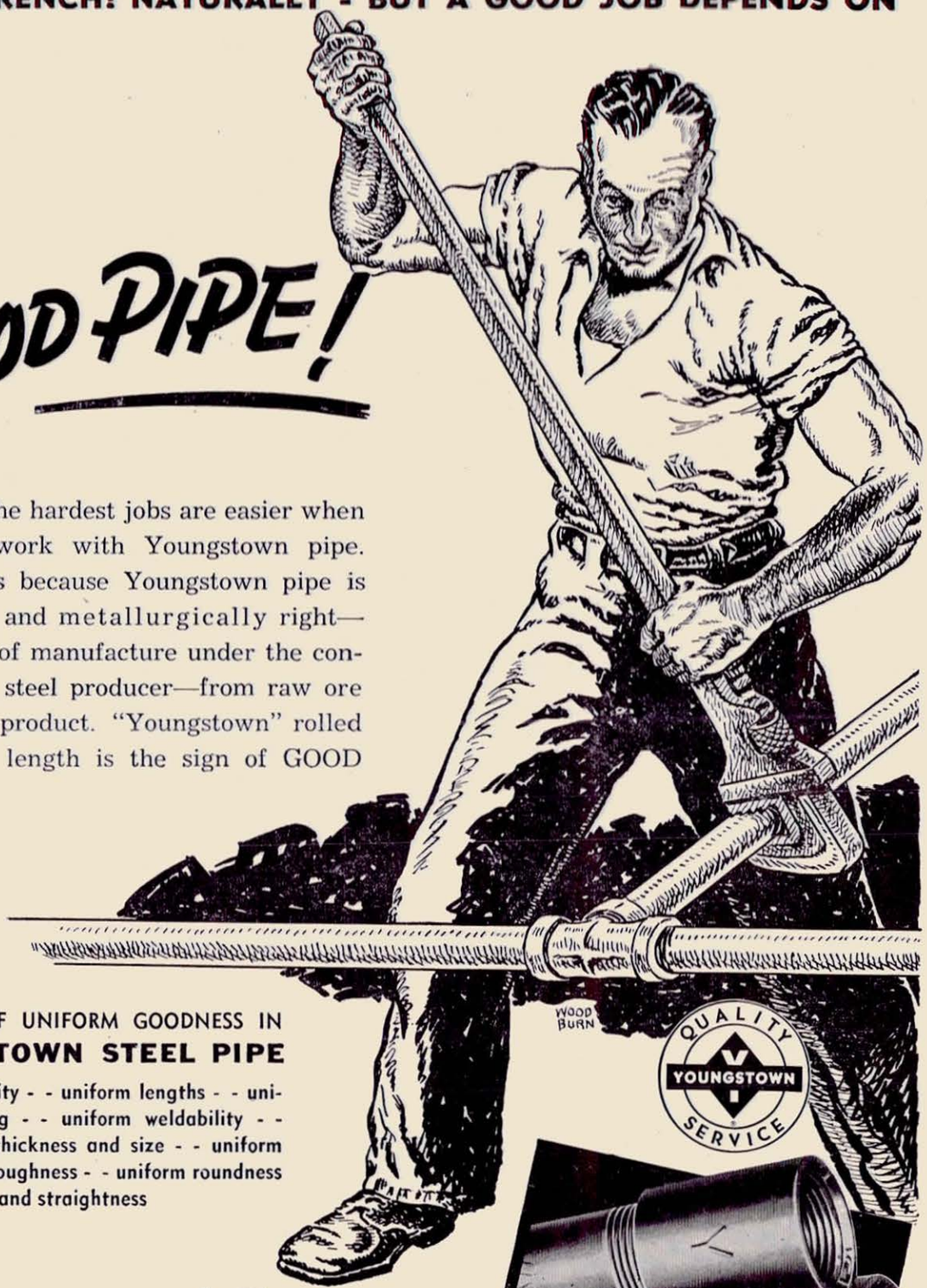
The prognosticators believe that future management "will have to know less about technology—depending on the specialists to provide them with correct information—and more about finance, sales and accounting." At every stage in industrial development there is some one problem that tends to attract major managerial attention—that is, some one problem presents the major obstacle to further progress. In the early days of most industries, the big problem was that of getting capital. In recent years, the major problem has seemed to be that of labor relations. Business Week believes that, in future, capital requirements will begin to come to the fore again—as improved automatic machinery has to be purchased.

The problems of railroad management, of course, parallel those of other industry—but with some special aspects because of the railroads' highly regulated condition. For this reason, it isn't safe for the railroads to rely too much on other industries for guidance; they should be doing a lot of inquiring about their own specialized problems, in addition to "keeping up with the Joneses."

One of our colleagues who is particularly interested in the recently organized Railway Systems and Procedures Association argues persuasively that the work of that organization is especially fitted to give management the kind of information it needs for adaptation to a rapidly changing environment. Our own guess is (1) that railroads' problems being as complex as they are, more high-grade analysis is needed of them (such study being clearly distinct from mere discussion or argument); (2) more management people need to be given experience in dealing with company-wide problems, rather than those of specialized departments only; and (3), of current problems, none is more vital than that of realistic pricing of the railroads' product for competitive selling. J.G.L.

GOOD WRENCH? NATURALLY - BUT A GOOD JOB DEPENDS ON

GOOD PIPE!



EVEN the hardest jobs are easier when you work with Youngstown pipe. That's because Youngstown pipe is chemically and metallurgically right—every step of manufacture under the control of one steel producer—from raw ore to finished product. "Youngstown" rolled into every length is the sign of GOOD PIPE.

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Time to End the Gaslit Era in Rate-Making

Whether or not acceptable means are found to expand the "trailer on flats" project, the railroads will still be confronted by the challenging fact that at least $2 billion in freight revenue is going to truck operators for traffic which, if comparative pricing reflected comparative costs, would move all-rail. The American Trucking Associations complains that the railroads are resorting to "selective rate-cutting." If this accusation be true, the railroads should be proud to admit it, because selective rate-cutting is just another word for competition.

One of the reasons the railroads have not been as competitive as they might have been is that they have endeavored to hold an "umbrella" over "rate relationships" for the benefit of their customers. The umbrella has become a discredited symbol in international relationships and it ought to be similarly discredited in transportation, and for the same reason in both cases—namely, that it doesn't work. Rates are nicely adjusted by the railroads, with the intention of protecting their customers—but these nice adjustments are effectively undermined by rival agencies of transportation, so they afford no genuine market protection to the railroads' patrons. On the contrary, they drive traffic away from the railroads—thus leaving less tonnage to bear the railroads' costs of doing business. These costs, perforce, can be recovered only from the traffic which still moves by rail. The futile effort to protect "rate relationships" thus injures, not only the railroads, but the very patrons the railroads are endeavoring to protect.

How the railroads' rate umbrella works becomes evident from a little observation of the nature of truck operations. Writes an observer, whose study of transport regulation is most discerning: "Motor carriers have a much higher proportion of variable costs than rail carriers, with the result that the minimum profitable rate for motor carriers differs from average cost by a much smaller proportion than it does in the case of rail carriers."*

The significance of this fact for the railroads, with their high fixed costs—and, therefore, unit costs which decrease as traffic increases—is that they have more room in which to "play around" in making prices than do the motor carriers, whose unit costs vary but little with volume. In the way railway rates have actually been made, however, they have enabled the truck operators to employ a system of differential pricing which has given them an opportunity to bid for traffic for which they have no "inherent advantage" whatever.

Here is how these railway rates work to divert a maximum of traffic to the highway: Many if not most railway freight rates are based on a mixture of considerations, including the "relative value of the commodity," equal treatment of all, and an *averaging* of all costs. Rates so determined are often well above the average costs of moving the traffic by truck. Thus, by charging a rate in the neighborhood of the railway rate, the motor carrier can often earn high unit profits. These, in turn, enable him to compete for "fill-out" or "return-load" traffic at rates which he can make on a purely "by-product" basis. The factors used to build railway rates at a high level, thus, work as a two-edged sword against railway tonnage—(1) they drive away an outgoing load to trucks, at a highly-profitable price, and (2) the truck operator, thus enriched, is enabled to quote a "by-product" rate on "fill-out" or "return-load" traffic, at rates which come nowhere near meeting all costs.

"Differential" Rates Are Justifiable

The umbrella furnished by the railroad rate structure allows the motor carriers to extend their market far beyond that available to them by their own cost characteristics. So-called "differential" charging in the railway industry is feasible and justifiable because there is a wide margin between average costs and the unit costs of added traffic. For the motor carriers, charges which are "differential" to any marked extent are not *naturally* existent, and arise largely if not entirely from the artificial way in which railway rates are constructed.

The trucking business is a useful newcomer to the transportation business, and it can do a lot of transportation jobs more economically than the railroads can do them. Such jobs the truckers ought to have every opportunity to take away from the railroads and, in the public interest, the sooner the railroads kiss such traffic good-bye, the better it will be for all concerned. On the other hand, the railroads are not advancing their own or the national interest—nor, in the long run, that of the trucking business either—when they permit

*D. F. Pegrum, whose article "Public Policy for Motor Transport," appeared in *Land Economics* (a quarterly journal published by the University of Wisconsin, Madison, Wis.) for August 1952.

artificial and outmoded rate practices to encourage the diversion to truck movement of traffic which can be moved more economically by rail. Regulatory tradition—and perhaps, to some degree, regulatory law—may prevent or handicap the necessary reform in railway rate practices. Where that happens, it is the duty of the railways to campaign in every way they can for the necessary changes in regulatory tradition, and in the statutes.

Folding the Umbrella

One approach to this problem, proposed by a number of contributors to *Railway Age's* continuing discussion of this question, would be to reduce the charges on higher-rated commodities (wherever the railroads' own costs would permit) to a level beneath the truckers' average costs, plus a reasonable profit. The effect of such a step would be to discourage the motor carriers from competing for outbound traffic for which they possess no "inherent advantage." The loss of such traffic, now trucked at a high profit margin because of the railroads' rate umbrella, would still further discourage highway movement of "fill-out" and "return-load" business at "by-product" rates.

One of the handicaps—besides those already mentioned—which have restrained the railroads from reducing their competitively high rates has been their fear of loss of revenue from traffic still moving by rail at these high rates. This restraint is becoming less valid all the time because, now, the traffic which still moves by rail at rates that are substantially higher than truck operating costs is no longer an appreciable volume; and what little may remain the railroads cannot expect to hold very long.

Competition in transportation must be accepted. Its complete acceptance by the railroads and their rivals, by shippers, and by the regulatory authorities would, in time, work to the maximum advantage of all concerned. As for the railroads, no other reasonable course is open to them. Given the effort and opportunity to bid competitively on the basis of their cost characteristics, the railroads can become a prosperous and expanding business. They cannot hope to do so under pricing hand-tailored to a monopolistic condition.

How to "Sell" Railroads' Aims to Other Industries

On October 19 the New York Railroad Club had a "petroleum night"—at which the principal speaker was Admiral Harold B. Miller of the American Petroleum Institute. In introducing Admiral Miller, Vice-President Ralph C. Champlin of the Pennsylvania emphasized the mutual interests of the two industries—petroleum and railroading—e.g., their dependence on each other as customers for each other's products, and their common concern for economic freedom. He went on to say, in part:

"Last week I attended a luncheon in Philadelphia, at which Chairman Wilson of Standard of Indiana spoke. He is concerned over the tremendous investment that the petroleum industry is making without a comparable increase in the rate of return on its investment. I certainly felt that we have to give a lot of credit to companies like Standard of Indiana for going ahead with their programs to make more and better fuels in the face of a declining rate of return. . . .

"For the oil industry as a whole the figures for 1952 show an investment of around $18 billion and a return on that investment of slightly over 13 per cent. For the railroad industry as a whole the figures for the same year show an investment of $26 billion and a return of slightly over four per cent. For my own company they show an investment of $2½ billion with a return of 3 per cent. . . . I hope, speaking directly to the oil men, that I can urge them that their concern for the welfare of their industry should include a concern for a restoration of the opportunities of free enterprise to the railroads. . . .

"The railroad industry is saddled and burdened with excessive regulation. The oil industry hopes to avoid having such controls imposed on it. And yet the railroad industry, which is in the forefront of the fight for the principles the oil industry espouses, finds itself in the position occasionally of being undermined by people who are normally the strongest opponents of inequitable taxation and unnecessary regulation."

Mr. Champlin then told of an oil man who spoke at a meeting of the National Petroleum Association last April and who defended without dissent the government's policy of providing toll-free waterways, improved for transportation at the taxpayers' expense. "This philosophy," Mr. Champlin asserted, "is the complete negation of the oil industry's declared public relations platform."

What Mr. Champlin said in those few minutes epitomizes the very essence of the railroads' public relations problem—that is, the interpretation of what the railroads want (e.g., an even chance to compete for business and an even chance to earn a satisfactory profit) in terms of what every other business wants for itself. The railroads' aspirations can be told concretely in such terms, which are understandable to all other businesses from their own experience. The question is: Can there be any hope that the general public, without actual experience with these problems, is going to understand and support the railroads' position until this position is, *first*, thoroughly "sold" to the business community?

FOR BETTER TRAIN OPERATION . . .

How Cooperation in Yards Pays

A study on one large railroad a number of years ago established that there was room for more cooperation between the yardmaster and the car foreman. Proper effort apparently was not made by the yardmaster to build up trains or switch together groups of cars for the trains, with the realization that after the switching was completed the car inspectors had their duties to perform. The result was the trains were not completed until scheduled departure, and seldom received any servicing other than the terminal air-brake test which is required by law.

The car foreman did little or nothing about it, for had he held the train to service the journal boxes or correct defects which might have resulted in brake-beam failures, excessive slack action and subsequent break-in-twos on the road, he was fearful of being charged with the delay to the train.

The railroad which made this study is the Baltimore & Ohio. Its results were reported to the recent annual meeting in Chicago of the Car Department Officers' Association by W. C. Baker, vice-president, operations and maintenance of the B&O. When the yardmaster and the car foreman work out their problems jointly in a spirit of cooperation, Mr. Baker said, trains can be made up, receive proper inspection, repairs and journal-box attention and depart on schedule.

To indicate what this cooperation on the B&O has accomplished during the past ten years, he explained that the 1942 freight-car failures on line of road—caused by coupler defects, trains parting, air-brake conditions and brake beams coming down—resulted in an average of 372,732 miles per freight-car failure. In 1952 the miles per car failure were 2,039,797, while for the first six months of 1953 the average was 2,287,700. These failures do not include the number of cars set off between division terminals for hot boxes.

In 1942, the B&O averaged 276,511 miles per car set off because of hot boxes. In 1952, the road made 588,929 miles per hot box, and for the first six months of 1953, 755,835 miles per hot box set out. This improvement resulted even though the average speed of all B&O freight trains increased about 13 per cent in this same period, Mr. Baker stated.

Maintenance for High Speeds

With the increased speeds at which fast freight trains must be operated, it is highly important that freight cars in these trains be maintained at a high standard of repair, said the B&O executive. Longer trains and increased speeds, brought about by diesels replacing steam locomotives, are necessary if railroads expect to retain their business and compete with other forms of transportation.

When new freight cars are to be purchased, he urged that particular attention be given to design and adaptability for service requirements. Generally speaking, the A.A.R. standard design meets most requirements. However, it is important that the car and mechanical-engineering departments work in close harmony with operating and traffic departments in selecting the best equipment.

Increased speeds also necessitate special attention to improved riding qualities of trucks and in Mr. Baker's opinion no cars should be built which do not incorporate ride control features. The latest improved devices for

lessening longitudinal shocks, whether they be in the nature of improved draft gears or center-sill cushioning devices, also were mentioned for careful consideration.

The improved types of power trucks used in entering box cars with maximum loads make it essential that the floors of box cars be suitably supported to prevent damage due to the wheels of these trucks breaking through the floor boards or otherwise damaging them, making the cars unsuitable for subsequent high-class loading. Improved unloading methods, such as car shakers, rotary unloaders, etc., also subject equipment to unusual strains. This makes it important in car design to provide increased strength in members affected by these devices, Mr. Baker said.

Wall Anchors Show Good Results

Considerable damage is caused to the inside lining of box cars by the application of blocking, or the nailing of steel strapping, which if not carefully removed, so damages the lining that cars are not suitable for handling sacked and other high-class commodities until the lining is repaired or renewed. The installation of permanent wall anchors for the attachment of bands may be the answer, he said, remarking that the B&O is experimenting with them and so far the results have been satisfactory.

The car and transportation departments can both contribute much to claim-prevention programs, Mr. Baker went on to say. Commodity cards should not be applied to cars designating suitability for merchandise or other first-class loading if they have defective flooring or lining which will damage the lading, or to cars which have leaky roofs or ill-fitting or defective doors that will admit rain or snow. Unsuitable cars should be carded for rough freight loading only. Yardmasters, agents and other transportation employees should place properly selected cars for loading. Where this is not done and unselected cars or cars carded for rough-freight loading are placed for merchandise and better loading, it is obvious that freight claims will occur because of damage.

When older freight cars must be put through the shops for repairs, they should receive proper repairs to give good service for several years without further shopping, Mr. Baker stated. At this time the trucks should be thoroughly rebuilt, the running gear put in first class condition, and the body and roof of the car brought up to the original standard to make it suitable for the loading it was originally built to handle.

Improved devices should also be added, such as truck snubbing devices, improved floor supports, and the latest improved type of doors and fixtures.

The speaker found it gratifying that the A.A.R. Mechanical Division has adopted a standard all-year car oil and improved specifications for journal packing. This should go far in improving the hot-box situation throughout the country, he said, and he congratulated the A.A.R. Lubrication Committee on their investigation of improved lubricating devices for freight-car journals. "While they may not accomplish all that is desired in completely eliminating hot boxes, their performance is gratifying, and further development of such devices should be encouraged."

"There is little question that roller bearings will eventually be standard on all passenger train cars," said Mr. Baker. "Few new cars are being put in service without them, and, I believe we will all agree that in the very near future passenger cars without roller bearings will be about as scarce as freight cars with arch-bar trucks. Here again, the A.A.R. Lubrication Committee is to be complimented on their exhaustive studies to develop a roller-bearing lubricant. Evidently, it is only a question of time when thousands of freight cars will be roller-bearing equipped in a pedestal type truck frame, which will permit change of wheels on drop pits, similar to the handling of wheel changes on passenger cars and locomotives today.

"When the A.A.R. Mechanical Division adopted mandatory rules covering the Magnafluxing of heated journals, it represented a major achievement. While one railroad may have made an honest effort to find heat cracks, by Magnafluxing or Magnaglo, in previously heated journals, it had no assurance that other railroads, whose cars were operating throughout the country, were making the same effort to remove these defective journals from service. With all railroads adhering to this rule, there has been a reduced number of accidents from this cause and I am certain a further reduction in the number of broken off journals will result.

"I do not want to infer that the railroads will stop burning off journals. This will continue to occur as long as an attempt is made to run a car with a hot journal, instead of setting it off at the first siding.

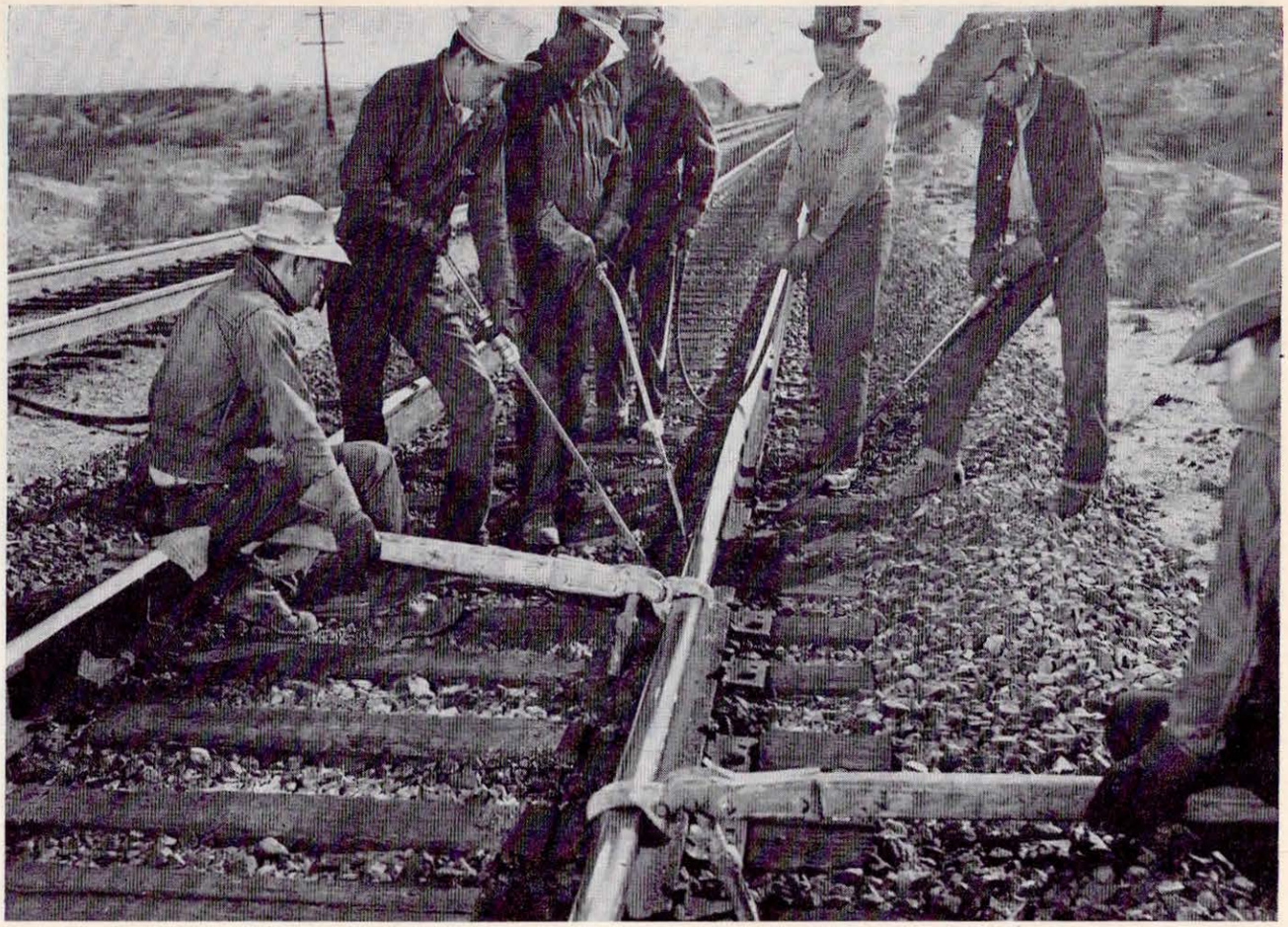
"As you know there is a difference in a burnt-off journal and one which breaks off. A journal usually breaks off, sometimes cold, due to having been previously heated and developing a thermal crack which was not detected when it was trued and burnished at the wheel shop. These cracks can generally be found by Magnaflux or Magnaglo examination."

Attention to Passenger Cars

Responsibility for the maintenance of passenger cars is an important one, Mr. Baker remarked. Safety is paramount. Trucks with defective wheels, or with brake beams and other parts not maintained in first class condition, can cause serious consequences. "It is the car department's responsibility to see that passenger-carrying cars are maintained at the highest degree of safety possible.

"Air conditioning of passenger trains is no longer in the experimental stage. Passengers look forward to a cool and comfortable ride. You can well imagine their disappointment when they reach their space in a car on which the air conditioning had previously failed, or which fails during their trip. Many of these passengers resolve to use other forms of transportation on their return trips, and many of them do just that.

"While we can expect an occasional mechanical failure, most of these failures are avoidable and could be overcome if our car-department supervision would see to it that the equipment receives proper daily, weekly and monthly inspections at the terminals designated to maintain it. Low battery voltage, dirty filters, poor electrical contacts are only a few of the causes for air conditioning failures."



A "SMEAR," known as Ankor-Seel, is being applied extensively on the Santa Fe under tie plates on those ties subject to excessive plate cutting. Rails and tie plates are lifted to permit the material to be pumped through the spike holes.

WAYS AND MEANS OF . . .

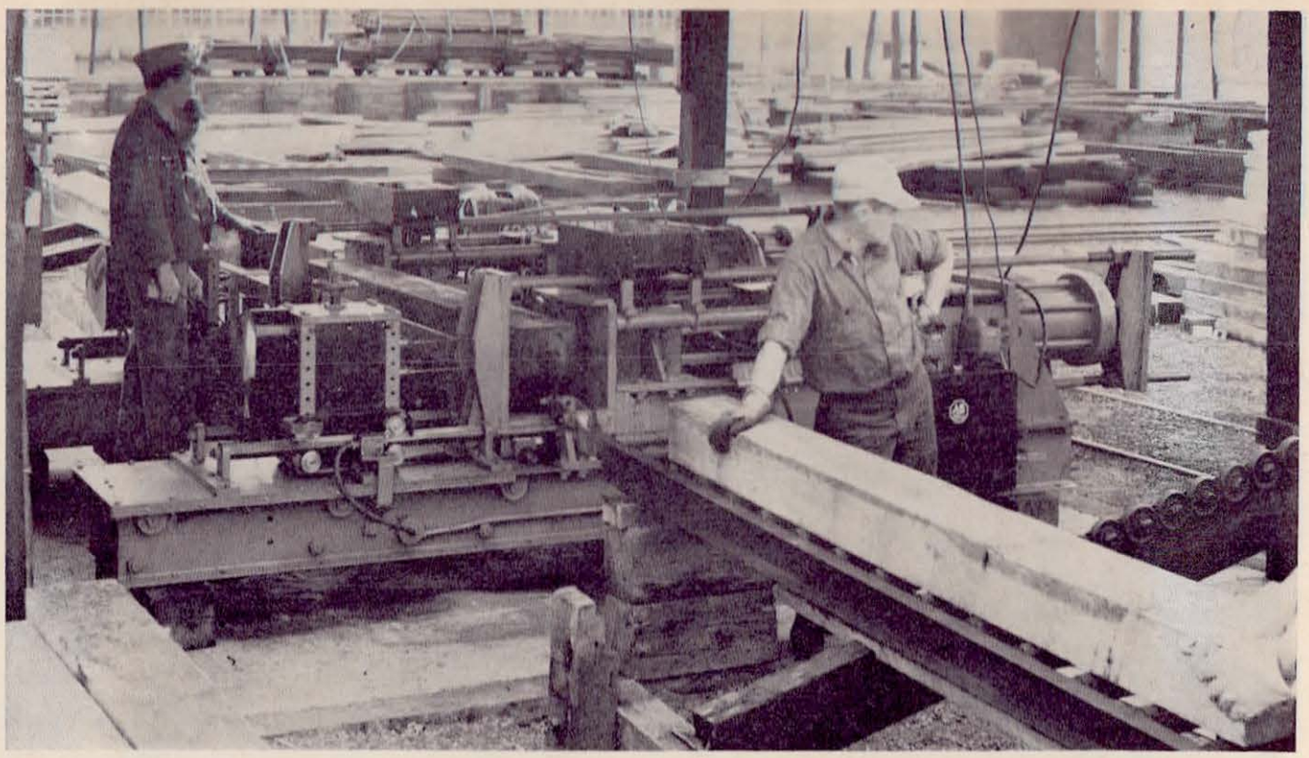
Making Crossties Last Longer

This and other current problems involved in the production and use of ties considered at annual meeting of Railway Tie Association

J. E. PETERSON, president-elect, Railway Tie Association.

Measures being taken to get more life from crossties received primary emphasis at the annual convention of the Railway Tie Association, held October 14-16 at the Biltmore Hotel, Atlanta, Ga. Some of the addresses were devoted entirely to this subject, while others touched on it only indirectly. These demonstrated that the problem is receiving intensive study, and that various new processes and devices have been developed, or are in the offing, which give definite promise of contributing to a solution.

A brief interlude in the succession of addresses and committee reports on technical subjects was provided by the address at the annual luncheon of Donald V. Fraser, president, Missouri-Kansas-Texas, who spoke on the subject, "A Look Ahead at Railroad Operations." "With a national population growth that may bring our



DOWELING is being used on an increasing scale to prevent splits from developing in ties. In this operation both ends of a tie are being bored simultaneously in preparation for inserting dowels.

populace to 180 million within the next few decades," said Mr. Fraser, "the railroads and the whole transportation industry face a new era that calls for greater heights of service to the public—a service that must be attended with economy and efficiency." The "piggy-back" idea of hauling motor-truck trailers on railroad flat cars was seen by Mr. Fraser as offering one of the "brightest hopes" in the entire transportation picture. The major portion of his remarks on this subject was quoted in *Railway Age* October 19, page 15.

Total attendance at the convention was 475, including 118 railroad men. Sessions were directed by President Harry Dunston, vice-president, Southern Wood Preserving Company, Atlanta. Officers elected for the ensuing year are: President, J. E. Peterson, Gross & Janes Co., St. Louis; first vice-president, J. H. Tabb, J. H. Tabb & Co., Houston, Miss.; second vice-president, Douglas Grymes, Wood Preserving division, Koppers Company, Pittsburgh; members of the Executive Committee, Frank W. Campbell, Crane Lumber & Tie Co., Chicago; Edward F. Schlafly, Potosi Tie & Lumber Co., St. Louis; W. L. Winham, T. J. Moss Tie Company, St. Louis; and D. B. Frampton, Jr., D. B. Frampton & Co., Columbus, Ohio.

The Executive Committee reelected Roy M. Edmonds as secretary and treasurer of the association.

TOWARD LONGER TIE LIFE . . .

1. On the Santa Fe

"We figure that main-line—main track ties going into track today have an average life in excess of 30 years," stated T. A. Blair, chief engineer, system, Santa Fe, and L. C. Collister, superintendent of the Albuquerque (N. M.) treating plant of the Santa Fe, in an address giving results of a three-year program on this road to determine by inspection the causes of failure of ties at the time they are removed. "This conclusion," they explained, "has been reached from a study of test sections of ties and is verified by the fact that our average main-line—main-track renewals for the past few years have been 112 ties per mile per year, giving an average life of 29 years." During the past 10 years the average annual renewals have been 99 ties per mile, giving an average life of 33 years, they stated.

The study of the causes of failure of ties is being made in an effort to develop means of obtaining additional tie life.

During the three-year period, 1950 through 1952, a total of 653,143 ties were inspected at the time of removal from track to determine the primary cause of failure.

This represents an 18 per cent sampling of the 3,578,516 ties removed from all tracks. Actually, however, the ties inspected were practically all main-line—main-track ties, of which the sampling represents 37 per cent of the total removed during the period. For each tie inspected information was recorded on year of insertion, type of wood, kind of treatment, whether sawed or hewn, and cause of failure.

The address by Mr. Blair and Mr. Collister was devoted largely to a description of the findings of the tie inspection program and of the policies for prolonging tie life that have been put into effect as a result of them. Speaking of pine ties, they stated that "plate cutting accounts for so high a percentage of failures in these ties (31 per cent for southern yellow pine and 39 per

cent for western pine) that we are now, on all new rail relays, either anchoring the tie plates with Racor Studs or coating the tie-plate bed with Ankor-Seel made by the Ruberoid Company." The road is also carrying on investigations to reduce the failure of these ties due to splitting and shatter. When the investigation is completed the Santa Fe "will know definitely whether we should dowel or Vapor Dry those pine ties which were split during the seasoning period."

The investigation, according to Messrs. Blair and Collister, indicated that 36 per cent of fir ties are removed because of plate cutting. Because of this high percentage a machine and supplemental equipment has been developed for raising tie plates in track and inserting Ankor-Seel compound under them.

Because 69 per cent of oak ties removed from track have failed because of splitting the road has increased the percentage of oak ties doweled and has installed Vapor-Drying in a test cylinder at its Albuquerque treating plant. According to the speakers, the road has shown that, through increased penetration and retention under this process, it "can materially reduce the percentage of failure due to decay, as well as reducing the percentage in splitting."

Gum ties show a record of 25 per cent removed for decay and 56 per cent from splitting. This experience has led the railroad to increase the doweling of gum ties to reduce splitting and set up an incising machine at its treating plant at Somerville, Tex., for incising gum ties showing heartwood faces in an effort to get better penetration. In the meantime experience with its experimental Vapor-Drying cylinder indicates that this process is "as beneficial to the gum as to the oak."

The road has concluded that "if we can buy a good tie with improved handling and treatment methods and better protection in track we can expect to further extend tie life."

2. On the Southern

"We know, or feel sure, that benefits are received from such processes as Vapor-Drying, controlled air seasoning, incising, adzing, preboring, end-ironing, end-boring, and doweling," stated George H. Echols, chief engineer, Southern system, in an address entitled "Are Measures Now Being Used to Prolong the Life of Crossties Justified from an Economic Standpoint?" However, to measure the additional tie life obtained from one or more of these processes, he stated, "is quite difficult and subject to considerable variation in opinion."

Mr. Echols believes that the tie plate constitutes the greatest single contribution toward prolonging the life of a tie. "We have made great progress," he continued, "toward increasing the size of our tie plates in the past few years, but it is expensive and the cost should enter into any computation of economical tie use."

He then spoke of the tests that are being carried on with tie pads, tie surfacing compounds and special hold-down fastenings. "Some pads," he said, "especially those which seal themselves to the ties, show great promise." Also, surfacing compounds can be applied which will stop or retard moisture from entering the tie on the exposed top surface. Mr. Echols believes that use of special hold-down fastenings has shown promise toward preventing mechanical wear between the tie and the tie plate, but said that test applications of some had been too recently installed to provide an answer, while others have already been abandoned as either being too costly or not effective. "We will, however, continue to experiment with tie pads, sealing compounds and special hold-down fastenings in the hope that through these efforts we will arrive at an answer to the search for methods to prolong the life of ties beyond that which has already been achieved."

3. On the B&O

The practice of the Baltimore & Ohio in using mixed hardwoods for crossties was the subject of an address prepared by C. B. Harveson, chief engineer maintenance of that road, which was read by J. T. Andrews, special engineer. Mr. Harveson told of measures taken on the B&O to obtain maximum life expectancy from ties made of mixed hardwoods. "In recent years," he said, "a fairly uniform average for mixed hardwood crossties has been maintained and at the present time we are buying approximately 25 per cent of our requirements in beech, hickory, gum, ash, birch, cherry and hard maple. Of these species, the greater proportion is in beech, hickory, hard maple and gum. Mr. Harveson explained that a service test of mixed hardwood ties, initiated in 1928 and terminated in 1952, showed that the average life obtained from the ties removed is as follows: White oak—20.8 years; red oak—20.2 years; and mixed hardwoods—21.8 years.

As a general rule, the B&O has found that mixed hardwoods, if properly seasoned and treated, have a life expectancy at least equal to the oaks, and that if this tendency to split is controlled they "may give even better results." This is particularly true of hickory, which has shown itself capable of "very good service" as regards rail or tie-plate wear, especially on sharp curves. To obtain this end, however, close observation and care are required during the seasoning period, and a somewhat greater cost in application of anti-splitting devices.

Mr. Harveson explained that the present method of controlling split ties is by means of selective doweling. This involves machine doweling of all ties which have developed serious end splits during seasoning. Experience has shown that mixed oak ties show a much smaller proportion of serious seasoning splitting than the mixed hardwoods, the average for the former being 7 per cent and for the latter about 25 per cent. "The greatest offender in this classification is again the hickory, of which about 90 per cent must be doweled." Concluding, Mr. Harveson said the purpose and use of mixed hardwood ties is to enable the road to take advantage to the fullest extent of available forest growth.

4. And on the Research Front

A résumé of all research work now underway to develop means of getting more life from crossties was given in an address by G. M. Magee, director of engineering research, Engineering Division, Association of American Railroads. In the absence of Mr. Magee, his address was read by H. E. Durham, research engineer, track, Engineering Division, A.A.R.

The work of the association along these lines, he

said, has, in general, been divided into two phases. One of these is a joint cooperative research program with the National Lumber Manufacturers' Association, which is devoted primarily to discovering means of seasoning and treating ties to protect them against checking and splitting. The other phase consists of research projects which have been sponsored by the A.R.E.A. Track committee for the purpose of reducing tie abrasion.

Coatings and Laminations

Speaking first of the research work with the N.L.M.A., Mr. Magee told of efforts being made to develop a seasoning and treating process, and of initial experience with it on the Santa Fe. In general, he explained, it seemed that the process "accomplished considerable towards retarding checking and splitting," but he went on to say that in its present stage of development the cost of treating ties by this process is uneconomical. "Another important question about this treatment is whether the strength of the wood has been seriously impaired by the elevated temperature used during treatment." Laboratory tests are now being conducted to determine the answer to this question.

Work with the N.L.M.A. also includes a project to test the efficiency of tie coatings as a means of preventing checking and splitting. "It has been definitely determined," he said, "that a good tie coating will maintain a more uniform moisture content in the top portion of the tie during the seasonal changes throughout the year." Some work has also been done to develop a satisfactory and economical laminated tie. However, "the cost of lamination is so much that ties cannot be produced by this process today in competition with sawn or hewn ties."

Mr. Magee said that, in a service test on the Louisville & Nashville near London, Ky., "we have several different types of hold-down fastenings and tie pads under observation." The hold-down fastenings, he said, have generally effected a reduction in the rate of tie wear of about one-half compared to ordinary cut-spike construction, while most of the tie pads included in the tests have entirely eliminated tie wear in the relatively short service period to date.

Laboratory tests are also being conducted on hold-down fastenings and tie pads. In these tests, he said, "it is apparent that certain types of tie pads will adhere to the tie and to the tie plate and effectively absorb the lateral motion so that none of this motion is transmitted to the tie. A further advantage of the tie pad," he continued, "is that if it is of a composition or if it is provided with an adequate sealing coating it will effectively prevent water from contacting the tie fibers directly under the tie plate. This is, of course, of great importance in preventing weakening of the fibers, water erosion and chemical attack." Both the service tests and the accelerated tests in the laboratory have indicated, said Mr. Magee, that a good design of tie-plate hold-down fastening will reduce the rate of tie-plate cutting by approximately one-half. Another advantage of the hold-down fastening, he said, is the added holding power which it gives to maintain gage. In his opinion there is a definite field for use of both hold-down fastenings and tie pads.

TIE PRODUCTION NEXT YEAR. . .

1. As Seen by a Statistician

A comprehensive analysis of factors which will have a bearing on production and use of crossties next year was presented in an address entitled "Tie Buying Power of Class I Railroads in 1954," by Graham E. Getty, statistician, Bureau of Railway Economics, A.A.R. Mr. Getty's conclusions included the following points:

- A decline from the high level of industrial production experienced in the first part of 1953 seems inevitable, but the "decline should be a moderate one, possibly ranging between 5 and 10 per cent."
- A decrease of approximately the same relative proportions may be expected in railroad operating revenues, which would place them for the year at approximately $10 billion.
- Having passed the peak of equipment expenditures, particularly new diesel locomotives, the railroads "are currently devoting more of their available funds to roadway maintenance and improvement. Continuation of this trend in 1954 seems likely, provided earnings permit."
- "Since the first half of 1952, railroads have not been buying materials to the same extent that they have been using them, resulting in reduced inventories. This trend seems likely to be halted in 1954, if traffic and earnings outlook is at all favorable."
- "Crosstie purchases in 1953 may fall below 1952 by as much as 12 per cent, representing an outlay of 0.8 cents per dollar of operating revenue. In view of declining inventories and good prospects for continued roadway and maintenance improvement programs at current levels, a return to the historic average of crosstie purchases of 1 cent per dollar of operating revenues may eventuate."
- The past six years have shown a rather symmetrical pattern in crosstie production, with 18-month periods of relatively high production alternating with similar periods of relatively low production. If this pattern is repeated, "the next upturn in tie output should get underway in the early months of 1954."

2. And by a Tie Producer

"Looking Back at 1953 and Forward to 1954 in Crosstie Production," was the title of an address by T. J. Turley, Jr., vice-president, Bond Brothers, Louisville, Ky. As for 1953, Mr. Turley said it had been a rather uninteresting and uneventful year from a crosstie production standpoint. "There has not been a great demand, and from one viewpoint this was a good thing, for had there been a large demand it is doubtful that many more ties would have been produced, unless more encouragement had been given in the form of higher prices or less rigid inspection."

Mr. Turley ventured no definite prediction regarding production figures for 1954. "Too many things can change the picture overnight." He feels that tie production "will likely rock along about the same as at present, assuming lumber prices continue firm and providing also that inspection of ties made by the railroad inspectors does not become more rigid. If, on the other hand, lumber prices get somewhat weaker, and tie inspection continues to get more technical, you could possibly see the production of ties killed in a very short period of time."

CHAIRMAN C. O. ELLIS (RI) presided at the Communications Section convention.

ANNUAL MEETING DISCUSSES

Communications Aid to Efficiency

The thirtieth annual meeting of the Communications Section of the Association of American Railroads was held at the Plaza Hotel in San Antonio, Tex., October 20, 21, and 22. C. O. Ellis, superintendent of communications of the Rock Island, presided at this meeting, which was attended by 510 men representing railroads and supply manufacturers, and 223 ladies.

The program included addresses by Chairman Ellis and Donald V. Fraser, president of the Missouri-Kansas-Texas, and the presentation of six technical papers. Eight standing committees presented reports on specifications, practices and developments concerned with railroad communications. Bernardo E. Arias, superintendent of telegraph and electrical department of the National Railways of Mexico, described communications on the Mexican railroads.

The application of compandors in communications circuits was discussed by George L. Curtis, applications project engineer, Lenkurt Electric Company. The training program for Union Pacific communications' department employees was described by C. O. Jett, system telephone and telegraph engineer. K. M. Lockerby, engineer, telegraph and signals, Pennsylvania, explained how Intrafax speeds ticket sales in the railroad's Pittsburgh area. Train radio equipment failures were analyzed in a paper presented by L. E. Verbarg, superintendent of communications, Missouri Pacific. A description of the use of transistors in dispatchers' telephones was presented by J. H. Wallis, superintendent of communications, Baltimore & Ohio.

Combined business machines and Teletype equipment to mechanize the handling of car movement records for their traffic departments, yard offices and car records offices have been installed by seven railroads. Continued growth of railroad radio is shown by the addition during the past year of 2,832 mobile stations for road train service, 2,060 mobile stations for yard service, and 100 base stations for both types of service. Outstanding developments in railroad communications include Intrafax, a facsimile method of transmitting Pullman reservation coupons between a central ticket office and suburban offices; the use of transistors in dispatchers' telephones to improve their operation; and the use of compandors in circuits to improve their quality of transmission.

COMMUNICATIONS HASTENED RAILROAD DEVELOPMENT

. . . asserts C. O. Ellis

"There is no question but what communications tremendously accelerated the railroads' development. It has always been the medium by which the construction and operations were directed, and as the railroads grew, the demand for communications became greater and greater until today all of the various methods of the art from single Morse to microwave radio are used in railroad service and operations.

"With the formation of the Communications Section of the A.A.R. various committees were appointed to handle the many phases of communications. They have developed one of the most complete sets of recommended practices to be found in non-commercial communication. In this they have been ably assisted by members of the commercial telephone and telegraph companies, and those of the many other manufacturing companies as well. To the members of these committees, both railroad and associate, we owe a debt of appreciation, for without them the railroads could not have reached their present high standard of efficiency.

"It is the function of this section to keep currently in touch with the rapid developments in electronics, particularly those concerning communications, and to apply them to railroad service wherever they can be advantageously used. The most expensive economy possible is for a railroad to have insufficient communication facilities for its needs, especially when so much can be had for so little. Our busy executives are not going to plan our work for us, it is our job to engineer and recommend projects to them for consideration. Let us not be negligent in our duty to do so."

RAILROAD SECURITIES MUST BE GOOD INVESTMENTS

. . . says Donald V. Fraser

"I am definitely optimistic regarding both the short-term outlook for this country's economic welfare and for the more distant future. We must be more alert, aggressive and receptive to new ideas and new methods

for accomplishing our tasks than we have been in the past.

"The railroads, I predict, will play an ever-more-important role in the bigger tomorrow I envision. This is because they have proved themselves to be the most economical and efficient means of mass transportation ever evolved by the minds of men. I am firmly convinced that one of the greatest needs is a more intensive program of research and development. Many startling improvements are now in the developmental or experimental stage that hold promise of further economies and efficiency.

"The most dramatic, and one that may have the most far-reaching effect, is the 'piggy-back' plan for hauling motor truck trailers on railroad flat cars. The 'piggy-back' concept offers the railroads a chance to get back much of the freight revenue they have lost. It would bring about tremendous savings in the tax dollars now being spent to maintain trunk highways by reducing the heavy traffic loads on the roads, and it would give shippers and travelers better overall transportation service.

"We must have broad support for public policies which are fair and equitable for all agencies of transportation, so that the railroads can earn a fair return on their net investments. Railroad securities must be made good investments so the venture capital we need for future expansion will be available.

"Railroad communications are a vital part of the overall picture of the future. Good communications are as necesary in the operation of a modern railroad as they are to an army going into battle. They are one of the important keys to efficiency."

MODERN COMMUNICATIONS ON MEXICAN RAILWAYS

. . . says B. E. Arias

"The first system of telegraph communication on Mexican railroads was in operation on November 5, 1851. The National Railways of Mexico have a total length of 24,000 miles of wire for their exclusive service. As an additional load to our pole line, there are 22,200 mi. of wire belonging to the Direccion General de Telecommunicaciones, and 7,240 mi. of the Compania de Telephonos de Mexico, S.A.

"The use of rubber insulators has been standardized, after having been submitted to tests for many years and proved efficient. Sixty per cent of the poles on the National of Mexico are second-hand rails, and 40 per cent are treated wooden poles. The total volume of messages throughout the system in the year of 1952 was estimated in 11,450,192 telegrams and 1,272,711 train orders ('31').

"Formerly the railroads were owned by different companies, each having its own terminal in Mexico City, thus creating zones limited by railroad tracks and yards. Today all railroads that terminate in Mexico City are part of the National of Mexico. The various depots are to be consolidated.

"The new Terminal del Valle de Mexico spreads out through a strip of land 8 miles long. Electrical works include centralized traffic control, NX interlocking, car retarders, outside and inside plant communications, talk-backs, high tension distribution, yard lighting, electric plant, and radio communication. Electrical communications are to be carried throughout the terminal by a pair of wires with a physical telephone circuit and carrier superimposed on it, with enough telephone and telegraph channels to render the service required. The talk-back system will be used throughout the terminal.

APPLICATION OF COMPANDORS IN COMMUNICATIONS

. . . discussed by G. L. Curtis

"The compandor is a device for improving the intelligibility of speech transmission circuits by increasing the signal-to-noise ratio. Thus there is less noise on the line enabling persons to hear their conversation more clearly. Widespread application of compandors has become feasible with the development of a low-cost, miniaturized, self-contained unit suitable for use with either physical or carrier derived telephone circuits. Their use often can result in considerable savings in outside plant work and original equipment cost."

EMPLOYEE TRAINING

. . . described by C. O. Jett

"At present we are training employees to become chief operator-printer mechanicians (wire chiefs), equipment men and district men. When the student wire chief begins his training course, we issue him a book containing sections of the A.A.R. Communications Section Manual, concerning the installation, maintenance and operation of telephone and telegraph equipment, plus a book on the principles of electricity and elementary electronics. Students work directly with our chief operators, and assist them in the operation of the office to which they are assigned.

"Students work on Teletype equipment under the supervision of a skilled printer mechanic as well as on telephone and telegraph equipment. They must also be able to take over the supervision of an office on the second or third trick in the absence of the manager. As chief operator, they are required to handle the various traffic problems that may come up in regards to routing, receipt and delivery of messages as well as supervision of office forces.

"A fully trained employee doing inside plant work is given the title equipment man, and is assigned to build, install, inspect, test, and adjust or repair, telephone or telegraph apparatus including radio and other electronic facilities. Students begin actual work by repairing and building various components of our communications equipment in our Omaha telephone and telegraph shop. Later they are sent out with an equipment man to make installations of new facilities and rebuild old ones in our telegraph offices.

"Apprentice linemen must serve a 2½-year apprenticeship, working 24 months assisting linemen and district

men in general telephone and telegraph plant work, and six months assisting an equipment man. Apprentice linemen must become qualified to test, inspect, adjust, install and maintain common types of telephone and telegraph apparatus, and learn general pole line construction work.

"They must become familiar with inside wiring, intercommunicating and paging systems and cable work. The main function of the district man is to locate and clear all sources of trouble in a short time."

INTRAFAX SPEEDS TICKET SALES

. . . states K. M. Lockerby

"The average time required to make a reservation and purchase a ticket on Pennsylvania trains out of Pittsburgh has been drastically cut by the use of Intrafax, which provides two-way communication for messages, requests for information or space reservations, and for wide dissemination of reserved space coupons from a central bureau.

"The accommodations available for principal trains for one week in advance are indicated by letter and color on a large Ready-Sale board.

"The initial installation on any railroad of a Teletype receiver-projector station furnishes current information to both the customers and the bureau sales personnel, relative to movements of passenger trains approaching Pittsburgh. This current information is focused on a screen which may easily be read from a distance of 30 ft.

"Intrafax connections are provided from the central bureau to the downtown city ticket office, four suburban ticket offices, 14 general offices of large corporations and one department store in downtown Pittsburgh. Standard Desk-Fax transceivers are used as terminal sets on the lines which are connected into the central bureau's Intrafax console (consisting of four transmitters and four receivers).

"An early study developed that although the selling of simple, non-reserved coach tickets constituted 45 per cent of ticket transactions, it required only 10 per cent of total selling time. Reserved space tickets, amounting to 43 per cent of transactions, required 55 per cent of selling time. The answer was the use of preprinted, theater-type space coupons which are printed weeks in advance for each unit of reserved Pullman space on each train leaving Pittsburgh.

"When a customer enters a suburban ticket office and requests Pullman space a reservation form is transmitted to the central bureau by Desk-Fax. The Pullman space coupon for the desired space is transmitted by Intrafax to the suburban ticket office where a facsimile is reproduced on special perforated, sensitized paper. Actual transmission time for one space coupon is 50 sec. Intrafax is also used to send suburban ticket offices a periodic picture of the Ready-Sale board."

J. L. Niesse (NYC) asked about the cost of Intrafax. Mr. Lockerby replied that the equipment was rented from Western Union at $15 per unit per month, so that the cost for Intrafax between two points or stations would be $30 per month.

TRAIN RADIO FAILURES CAN BE REDUCED

. . . according to L. E. Verbarg

"The Missouri Pacific system-wide train radio installations now include 936 mobile and 53 base stations, including 2,970 radio chassis, 29,000 vacuum tubes, 840 automobile-type vibrators and 420 12-volt axle-driven caboose power plants. The radio maintenance organization of the Missouri Pacific consists of 12 shops and 19 maintainers, three of the shops having maintainers assigned around the clock, and one shop having two men. Reports of all radio maintenance work performed are made by each maintainer and forwarded to the St. Louis general office.

"Our records revealed that over a 23-month period the availability for all mobile stations is close to 99 per cent. Each mobile station had an average chance of operating 85 days between total equipment failures. Radio equipment failure has been assumed to mean any failure, reported or discovered in routine check, which would make a mobile station unfit for main-line communication. Our statistics indicate that 63 per cent of all radio component failures are due to tubes.

"The radio maintenance records and statistics provide accurate information concerning dependability and service life of radio sets, about which railroad officers often inquire.

"From our maintenance records, we know the average and peak quantity of each item likely to be required during a given period." Therefore, these records are of help "when material requisitions are made up, to determine the quantity of each item to order."

Mr. Verbarg said that MP figures showed that diesels operated about 20 hours per day and cabooses 15 hours. R. A. Hendrie (MP) said that there were only two on-line failures per 100, and that a diesel locomotive operates 23,000 miles between radio failures.

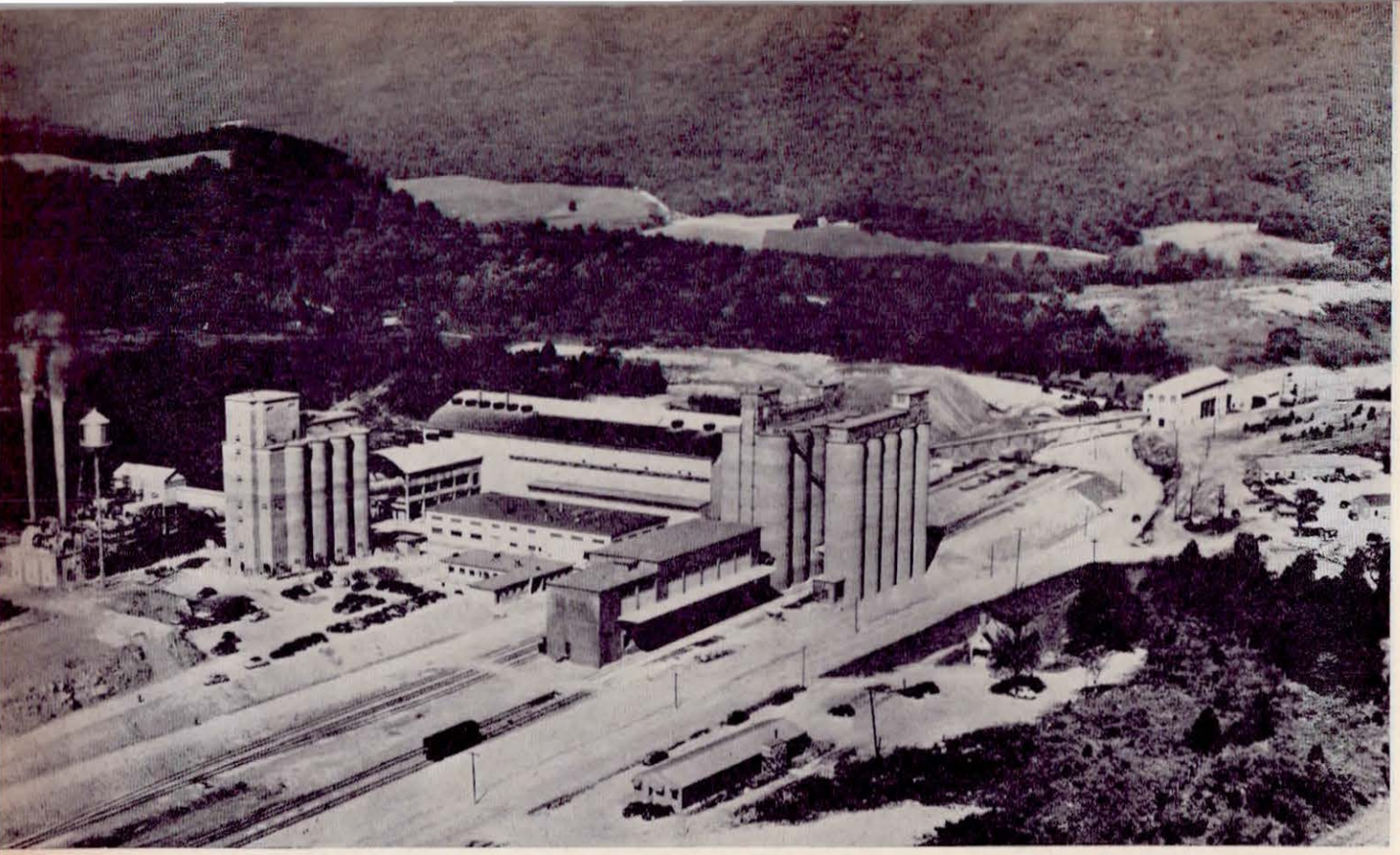
HOW TO USE TRANSISTORS IN DISPATCHERS' TELEPHONES

. . . explained by J. H. Wallis

"When the first literature on transistors became available, it seemed that the high efficiency and low power requirements of such a device would make it suitable for many wire line applications, including that of improving operation of the dispatcher's telephone. The transistor is a small device, operating similar to a vacuum tube, which when used in a dispatcher's telephone improves its operation.

"For the operating conditions that we encounter in this application, present transistor types are quite suitable. Our experience to date with these subsets (dispatcher's telephone) has been very satisfactory. They are not a cure-all, but I feel they will be a very valuable tool."

In answer to J. L. Niesse's (NYC) question as to the cost of transistors, Mr. Wallis replied that the first junction transistors cost $30, but now the price was down to $4.50.



LONE STAR CEMENT CORPORATION plant recently located at Lone Star, Va., on the N & W.

INDUSTRIAL TRAFFIC OFFICERS ARE IMPORTANT IN . . .

Selecting New Plant Sites

Recent survey reveals eight out of every 10 are involved in the final decision, and 77 per cent reported new plants had been built by their companies within the past two years

Eight out of every 10 industrial traffic officers are influential in deciding the location of new industrial plants, factories, mills and warehouses. More than half of these men play a *very* important part in selecting the new location, according to a survey by Kemp Research Organization of Rochester, N. Y.

This plant location study was conducted by mail, with questionnaires going to 287 industrial freight traffic officers who are regular readers of the new Simmons-Boardman magazine *Railway Freight Traffic*. Replies were received from 168, comprising a return of 59 per cent. Of the officers replying, 129, or 77 per cent, reported that their companies had opened new plants away from home base during the past two years; 33 did not during that period; and six did not answer the question. Regular committees to study new plant locations were reported by 94 readers, or 56 per cent of the respondents.

In reply to the question: "Is your traffic department a factor in deciding location of any of these plants?"—the 163 replies were classified as follows:

93—Very much so	48—Only slightly
1—Moderately	15—Not at all
1—In a consulting capacity	10—No answer

The general manager in charge of traffic for a large paint manufacturer replied: "In an organization where the chief traffic officer and his department really measure up to official stature, both comprise very important factors in efficient production, operation and sales. Under these circumstances, the traffic department usually has a good deal to say regarding new plant locations. Because of the very important part that transportation plays in the delivered price of our products, strategic location, particularly of new plants, is fundamental. For instance, in deciding upon the location of a new plant now in course of construction, the sales department specified certain parts of three adjoining states as desirable. Transportation and labor considerations finally dictated the site, and as chief traffic officer I played an important part in the final decision."

Rather modest is the rating that the general traffic manager of a large distillery (1952 sales: $697 million) assigned his department as a "moderately" influential factor in plant location, because, he adds by way of explanation: "As a rule, whenever the company is considering a new plant site this information reaches the Traffic department. It then takes

the initiative in presenting to the person in charge of the project points to be considered from the viewpoint of transportation—its accessibility and its costs. This requires vigilance on the part of the Traffic department because, while these points involving transportation are considered pertinent, there is always the possibility that they will be overlooked."

This interesting comment came from the Pacific Coast: "We are traffic consultants to many Northwest industries and 'locate' several plants each year. Generally traffic is about 20 per cent of the final decision. Raw materials proximity plus labor costs far outweigh transportation factors in most cases. Generally we figure out the advantage or disadvantage transportation-wise of various plant sites and those used as offsets against the other factors of raw material availability, labor cost and ability to service final customers of the new plant."

Although the traffic manager of a large Milwaukee firm indicated that their traffic department is only a "slight factor" in deciding plant locations, he added: "Usually the general location of a new plant is decided upon by our Executive committee. When we are approached with request for rates on raw materials inbound, and finished product out, we can inject any pertinent data concerning the location being selected."

The growing importance of traffic officers in deciding plant locations is emphasized in these remarks from a respondent in New England: "In the past we have not been consulted concerning a new plant location; however, in the future we anticipate being included in the overall study of plant location. Accessibility to freight carriers would be a very determining factor as to plant location. Obviously, rate studies would have to be also made to determine the best situation in view of the possible competition."

Functionally Responsible for Location

Efficient distribution, particularly in the food industry, is mighty important, as indicated by this observation from the general manager of transportation and warehousing for a national house that handles at least 57 varieties and whose 1952 sales topped $205 million: "The Traffic department is a part of the Transportation & Warehousing division, which is functionally responsible for the location, size and cost of construction of all sales branch warehouses. In connection with manufacturing plants they are responsible with others for location and size, and particularly dealing with the warehousing end of the manufacturing plant. We look over all types of industrial development information and attempt to keep informed of up-to-date developments."

So much interested in the subject is the general traffic manager of a large retail chain which in 1952 sold more than $128 million of auto supplies, sporting goods, radios, hardware and ready-to-wear clothing in the United States and Canada, that in addition to answering the questionnaire he wrote:

"As general traffic manager of our corporation, I am also chairman of the Distribution committee, which is made up of a representative of each branch of our business, i.e., sales, warehousing, pricing, inventory control, wholesale and traffic. To this committee, problems of distribution are presented, which are reviewed, and specific assignments delegated to representatives of each department, depending upon what the assignment covers. Our committee makes decisions and recommendations on a wide range of distribution problems.

"Our traffic organization will survey an area as to rail facilities, truck service, highway junctions, and rates. If the town appears to have the facilities to suit our needs, then the question whether or not there are industrial locations available will be looked into by our real estate department.

"We also plot out on a map the location of the prospective warehouse site with relation to the stores that will be served in an effort to establish a site centrally located for distribution to our stores. All of our outbound deliveries to our 2,500 stores move on our own trucks, so we must show to management that the location which we select is economically situated from a distribution standpoint.

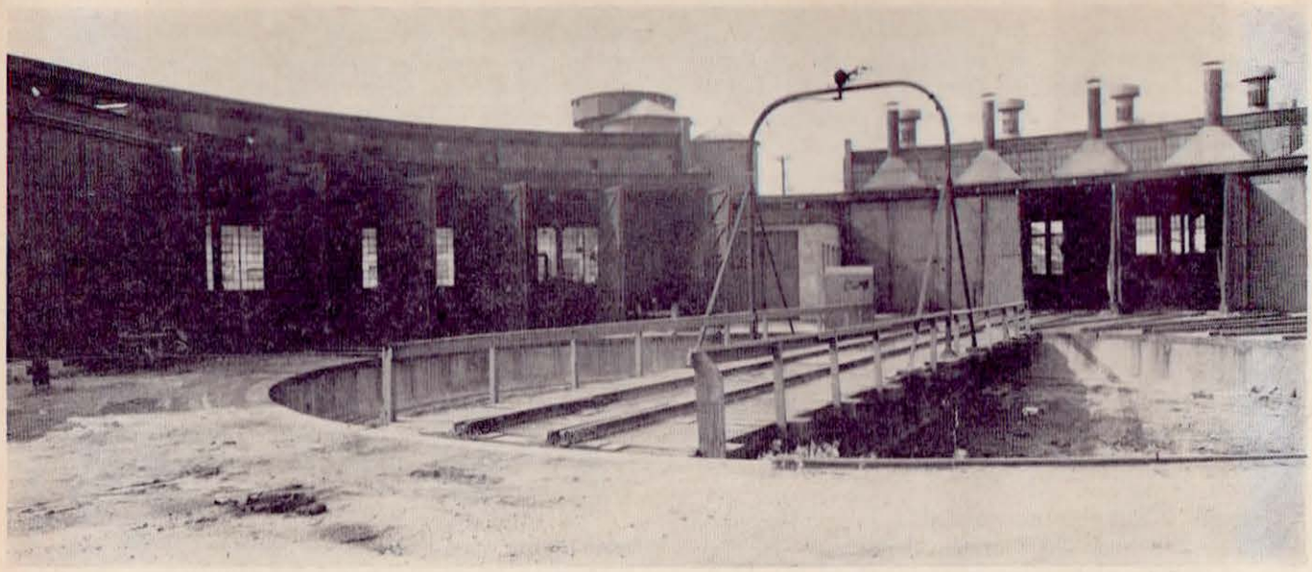
"We also make preliminary contacts with industrial agents of the carriers. I have before me today a prospectus prepared by one of the western railways on four prospective towns in an area in which we are interested. We will study each of these locations and give our recommendations to management. There are other factors that we consider indirectly, which are explored more fully by other departments. An example would be the labor supply and what our competitive relationship would be as to the available labor supply."

Must Approve All New Locations

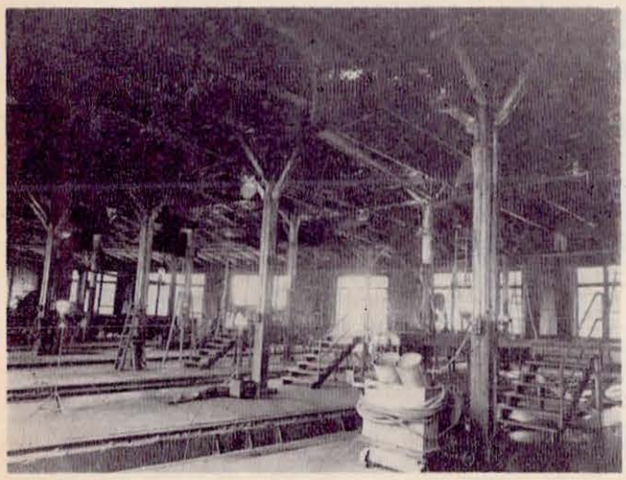
Quite emphatic is the comment of the chief traffic officer of a large container corporation (sales of $621 million last year) with headquarters in New York: "All new factory locations must be approved by the Traffic department before any final decision is reached with respect to proposed sites. Our policy is to locate the new factories on at least two railroads if at all possible. In selecting a new plant location, we take into consideration rail service, freight rates and accessibility to truck highways for truck deliveries."

As an insight into methods used by a national manufacturer of storage batteries, read what their director of traffic says: "Traffic makes the initial survey pinpointing the central location based on weighted transportation costs; primarily on finished products—secondarily on supplies and materials. Summarizes 1-2-3, etc., on details of local facilities—gas, electricity, employee transportation — switching limits and pick-up service. Modifications evaluated with labor supply and type of tax-land valued, etc."

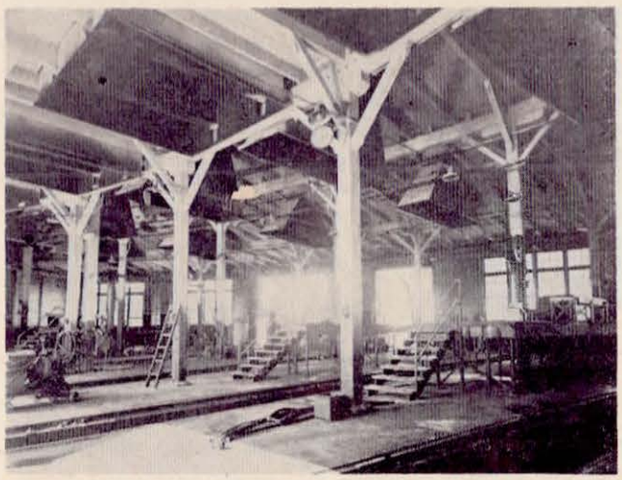
And who has the last word when the cards are down? According to the g.t.m. of a large manufacturer of breakfast cereals (more than $263 million sales last year): "Our operations involve both milling and storage in transit. Availability of these arrangements to, from, and at proposed locations is an absolute requisite. Ours is an old established company and could expand existing facilities to most production requirements. The primary reason for going into new locations is to offer better service to our trade or to avail ourselves of raw material sources. Transportation is the most important element in either of these factors. As a matter of fact, the Traffic department may be said to have the final say-so in new plant locations."



Old Enginehouse, After Conversion to Diesel Service . . .



Has Soot-Encrusted Interior . . .



Cleaned and Brightened With . . .

Sprayed-On Fire-Retardant Coating

When an old enginehouse is converted from maintenance of steam to diesel power, the hazard of fire becomes a matter of more than ordinary concern. And, when the only way to remove the diesel units from the enginehouse is over a turntable, which would require at least two movements of the table in order to remove even one locomotive from the house, as is the situation with the Burlington's enginehouse at Aurora, Ill., the danger from fire assumes even greater importance.

After the Burlington switched over about three years ago from steam to diesel power for its Chicago suburban trains, it needed a building to service and make running repairs to the diesel units, and for storing them overnight until required for city-bound morning trains. The 12-stall roundhouse, now no longer needed for steam locomotives, seemed the logical structure for this purpose, and could be converted at much less expense than a new building could be constructed.

A decision was made to alter the existing roundhouse. The old floor and engine pits were torn out and replaced by a new concrete floor and deeper inspection pits. Elevated working platforms were constructed and lubricant and water supply lines installed. Additional ventilators were inserted in the roof to allow the fumes from engine testing to escape, and an improved lighting system was installed.

Not long ago, a number of the road's engineering and maintenance officers witnessed a demonstration of the Albi fire-protective coating, manufactured by the Albi Manufacturing Company, Rockville, Conn. This is a fire-retardant that is applied like ordinary paint, and is available in various pigmented colors. It also bears the label of the Underwriters Laboratories, Inc., as well as several other research laboratories.

One day a maintenance officer of the road, who had observed the demonstrations, revisited the Aurora enginehouse and examined into its fire-protection facilities and of its susceptibility to fire. Several fire hydrants, connected to the city water main, were within easy reach. In addition, the enginehouse was equipped with four fire hoses having 75-p.s.i. city water pressure and fog nozzles, as well as two portable carbon-dioxide-dispersing machines for oil fires.

Timber Frame Construction

Looking up, however, he saw a typical enginehouse roof—3-in. deck plank, 6-in. by 14-in. joists, and 12-in. by 12-in. stringers and posts with knee braces—all wood, except for the tar-and-gravel surface.

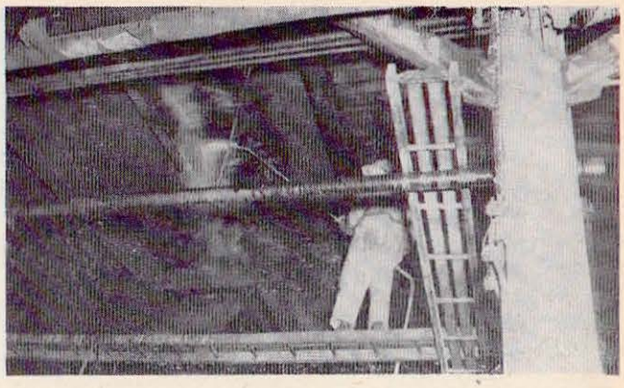
He also noted that the underside of the roof deck and its supports were covered with dried-up paint and coal dust and soot from steam locomotives, and were now being further coated with a thin film of unburned diesel oil. He realized that a fire, once started, as it easily could from a spark from a running engine, would spread rapidly.

At night, every stall except one is occupied by a diesel locomotive, representing millions of dollars in total investment. Also at night, when servicing of the locomotives has been completed, there is a period when few employees are in attendance, so that it was not only possible but highly probable that a fire could get a good start before fire-fighting equipment could be brought into effective action, with the result that the premises could very easily become untenable even before one locomotive could be evacuated from the house. After surveying this situation it occurred to the engineering officer that the fire hazard could be greatly reduced by applications of a fire-retardant coating. And it did not take long for his management to reach the same conclusion and authorize the work.

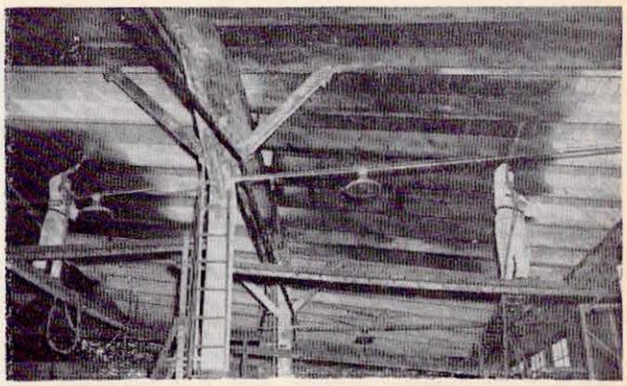
A contract was let to W. P. Slattery Company, Chicago, which firm is the designated coating applicator for Albi in midwestern territory. The contractor had unobstructed daytime use of the enginehouse for his work, which he completed in six weeks. Beginning with the five-stall section, the contractor worked on one or two stalls at one time, first removing the soot and oil coating, which was as much as ¼ in. thick, by ejecting low-pressure steam through a pipe having a flared nozzle with a slotted orifice. A caustic solution was fed into the steam in predetermined amounts to assist in the cleaning. This method successfully removed the old coating, exposing the clean wood surface.

The cleaned surface was allowed to dry for at least 24 hr., after which the first coat of protective material, designated "Albi PC," was applied at the rate of 1 gal. per 200 sq. ft. The material for this coat is an emulsion that can be brushed, sprayed or applied with a roller. At least 24 hr. was allowed for the drying of the first coat. When it had dried, a second coat, designated "Albi 99," was applied at the same rate as the first. This material is an oil-type fire-retardant. Both coats were applied with spray guns.

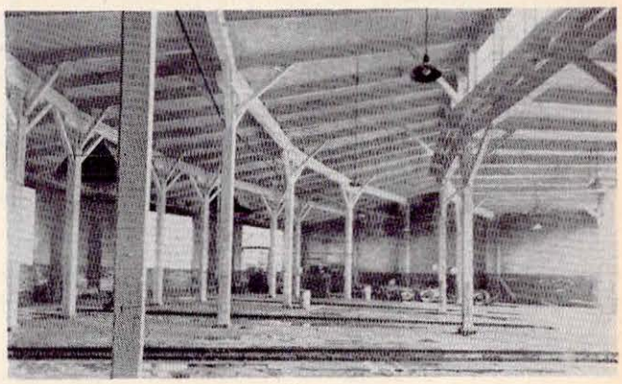
The contract covered the cleaning and application of the fire-retardant coating to the underside of the roof and all supporting timbers, such as purlins, girders, timber columns, and knee braces, at a cost of less than 18 cents a square foot. A gray color was selected which presents a pleasing appearance. The railroad believes that, in the event of a fire, the retardant coating will so hamper its progress that there will be enough time not only to marshall forces and equipment to cope effectively with it, but also to rescue all diesel units parked in the enginehouse.



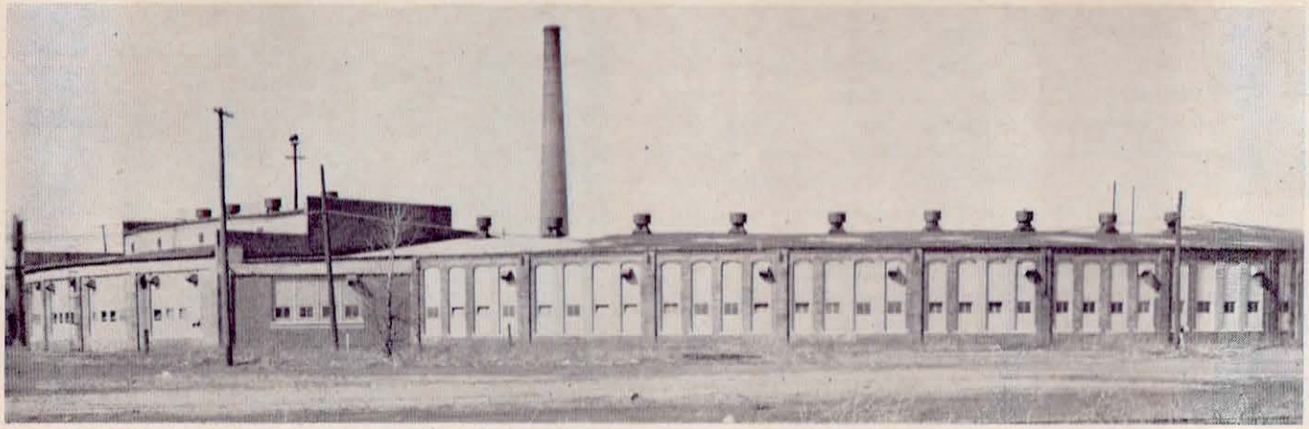
CLEANING with caustic-saturated steam exposes a clean wood surface on which a . . .



SPRAY APPLICATION of two coats of the proprietary coating is made to produce a . . .



FIRE-RESISTANT ROOF deck and supports.



IN THIS CONVERTED ROUNDHOUSE . . .

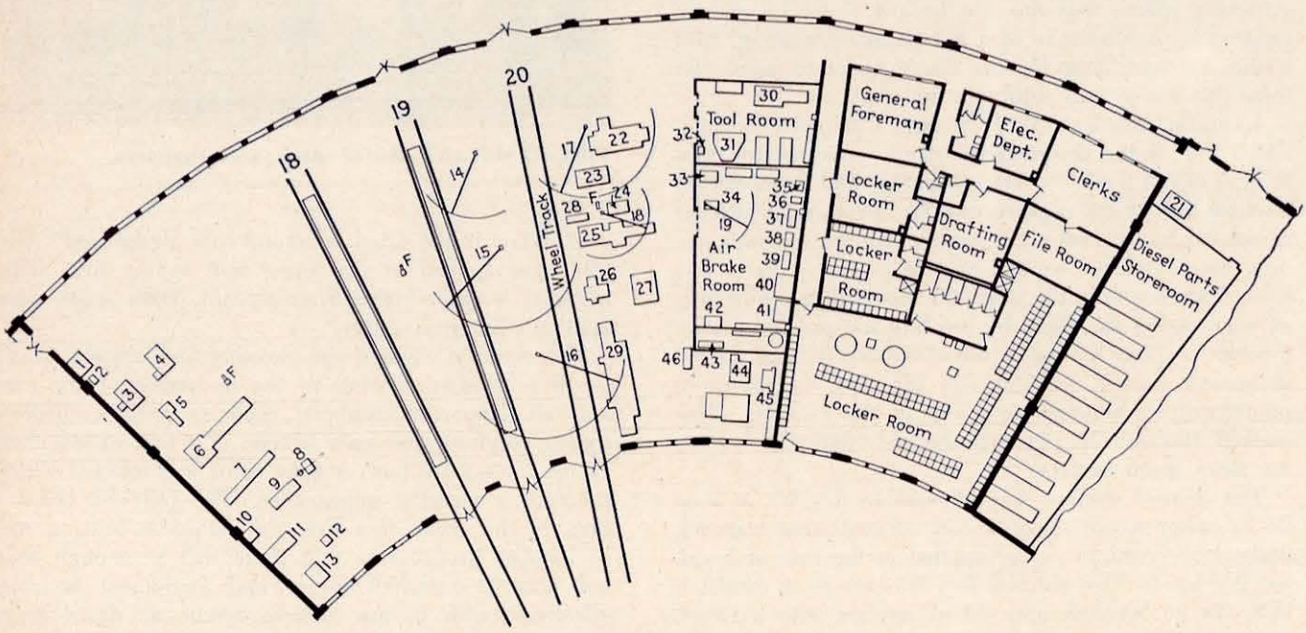
Diesels Are Effectively Serviced

Former Indiana Harbor Belt steam enginehouse offers several operating advantages and saves investment in a new structure

While the Indiana Harbor Belt was gradually converting from steam to diesel operation, areas within the road's major roundhouse at Gibson, Ind., were taken over for maintaining the new power. When the road reached full dieselization this policy of using the roundhouse was continued for several reasons instead of building a new rectangular structure.

First of all, the existing building was in good condition and could be converted to diesel maintenance for far less cost than a new structure could be built. Second, the roundhouse type of structure had one positive advantage over a conventional rectangular shop. It eliminates the problem of what to do when the middle of three locomotives undergoing repairs is completed first; with the round structure there is no problem of either having to move one of the units at the end of the completed unit or of holding the completed unit until repairs are finished on one of the other two units.

Finally, the disadvantages usually associated with servicing diesel power in a roundhouse do not apply to any great extent to the IHB. Most operations are conducted by single units; hence there is no problem of



HEAVY WORK and parts-cleaning section of the roundhouse.

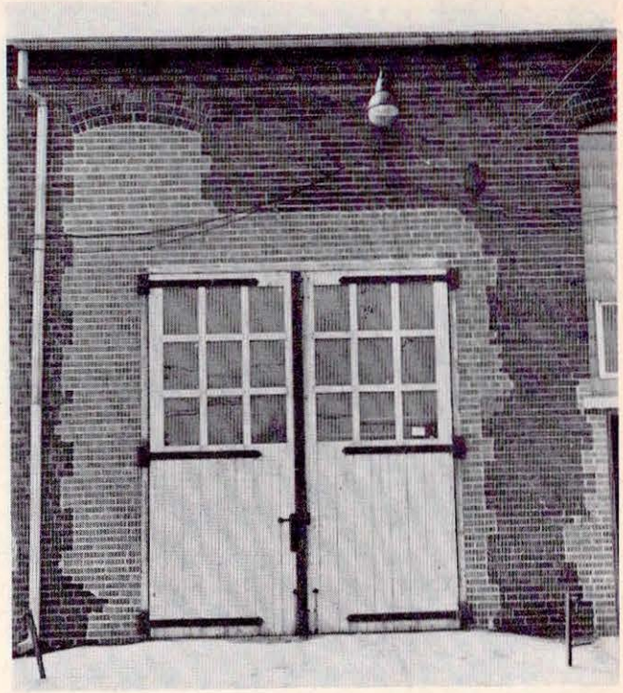
getting long multiple-unit locomotives across the turntable.

The small percentage of operation conducted by two-unit locomotives causes no great problem. First, the units can be separated easily and quickly because they are coupled together rather than being joined by pulling bars, as is often the case with road units. Second, there are four stalls in the roundhouse which were lengthened to accommodate long-tender steam locomotives. These are long enough to accommodate a pair of switchers coupled together.

How the Roundhouse Was Changed

A glance at the diagram gives a brief picture of the layout of the diesel roundhouse as it is today. The original structure had 38 stalls, of which 33 have been retained. Four, Nos. 35-38, are 130 ft. long; the remainder are 115 ft. long. Stalls 1 through 5 housed the steam locomotive drop pit. This section of the house was torn down to build a 50-ft. by 70-ft. engineman's service building, which houses the road foreman's and crew dispatcher's offices. It has one locker room with washing facilities for IHB enginemen, and a second, including two sleeping rooms with four bunks each, for Michigan Central crews.

Stalls 6 through 15 were left without change and are for future use to store track-repair equipment. Stalls 16 through 25 are devoted to a machine shop area, office space and washroom facilities. All but three tracks (18, 19 and 20) have been removed and level flooring installed in this area. Track 18 is used for overhauling steam cranes and Track 19 for diesel truck



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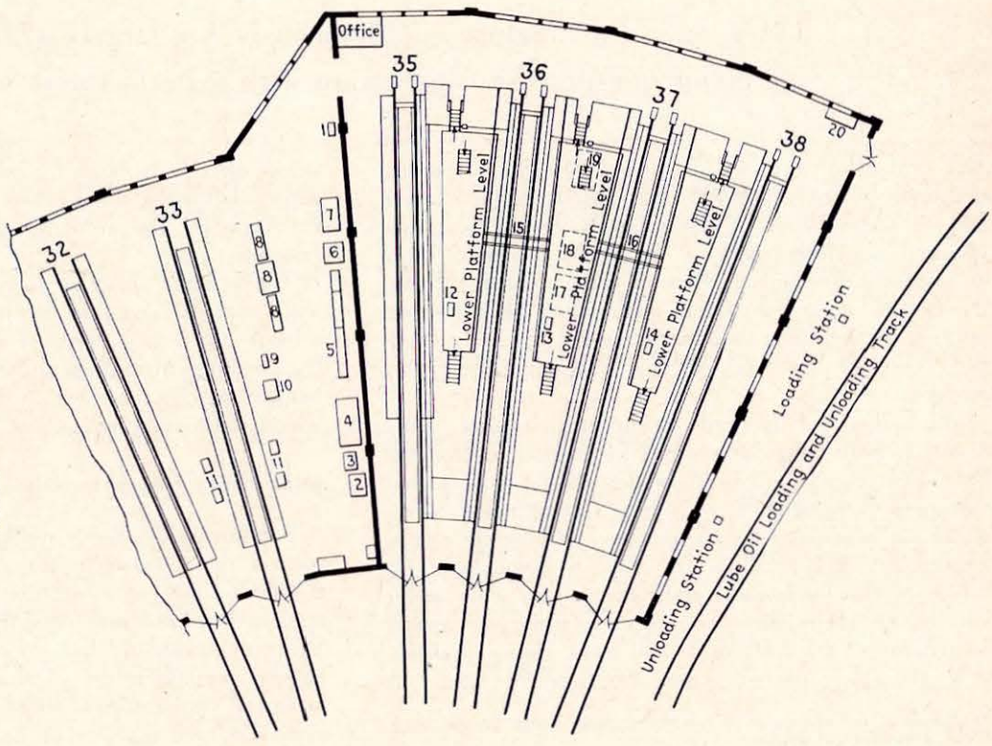

MACHINE SHOP, wheel and air-brake work are concentrated in a section of the original house.

(*Continued from page 65*)

"Carriers should make a full and complete showing before State commissions and our intervention should be limited to instances where it is clear that the state commission's action results in violations of section 13. If a mere difference between our finding of maximum rates and the rates authorized by a state commission is enough to justify the fixing of state rates at the maximum level, then this commission should be empowered simultaneously to establish rates on all traffic and the delay and expense attending the prosecution of proceedings before the state commissions and again before us under section 13 eliminated. The fact that the Congress has not provided for such direct action appears convincing that it did not intend that state commissions are to be replaced indirectly."

California Case — Commissioner James K. Knudson subscribed to the Clarke expression. Commissioner Clarke also filed a concurring-in-part expression with a like commission report in a case involving California intrastate rates. There again he objected to application of the majority finding to California rates on commodities with respect to which there is "little or no" interstate movement.

The Missouri case was docketed as No. 31003; the California case as No. 31219. In both cases, the commission withheld entry of orders; but said they would be issued unless the state authorities permitted the increases called for.

Mont., N. M., and La.—In No. 30674, the commission has vacated a May 20, 1952, order requiring increases in Montana intrastate rates. The action was taken after that state's Board of Railroad Commissioners agreed to authorize the required adjustments.

The commission has instituted an investigation to determine whether New Mexico's intrastate freight rates result in undue discrimination against interstate commerce. Interested railroads sought the inquiry docketed as No. 31359) because the State Corporation Commission of New Mexico has refused to authorize increases in line with Ex Parte 175 advances.

Railroads serving Louisiana have asked the commission to institute an investigation of Louisiana intrastate passenger fares. They complain that they are losing more than $50,000 a year as a result of the Louisiana Public Service Commission's refusal to approve increases in line with intrastate advances authorized last April.

Eastern Railroads File Lower Rates on Iron and Steel

Substantially reduced railroad freight rates on iron and steel products from all points in Eastern territory to all points in Southern territory have been filed with the Interstate Commerce Commission, the Traffic Executive Association—Eastern Railroads has announced. The new rates were established to put shippers in Eastern territory on a comparable basis with similar reductions established by Southern railroads, according to Edgar V. Hill, chairman of the association.

Mr. Hill pointed out that, although November 21 is the earliest effective date that could be established under I.C.C. regulations, Eastern carriers anticipate asking the commission to make the new Eastern rates effective on the same date as the Southern territory tariffs.

He further said the new rates would effect substantial savings for the shippers.

I.C.C. Dismisses Army's Pullman-Fare Complaint

The Interstate Commerce Commission has dismissed an Army complaint that the Pullman Company's charges for berth accommodations in standard and tourist sleeping cars are too high.

The commission's report, by Division 2, found that the assailed charges were not shown to be unjust and unreasonable. The case was No. 31046, the Army's complaint having been filed June 2, 1952.

Southern Roads Offer Drought-Relief Rates

Southern railroads have made a 50 per cent reduction in their freight rates for moving hay in carload lots into drought disaster areas. Western roads previously made a similar concession.

The cuts were made in answer to an appeal by Secretary of Agriculture Benson. He said they "will be of great assistance in the aggressive steps we are taking to bring help to farmers and ranchers in the large areas which have been damaged by prolonged and severe drought conditions."

The reduced rates will be in effect until November 16.

Baggage-Checking Charge Approved by the I.C.C.

Reversing its Division 2, the Interstate Commerce Commission has now authorized eastern and southern railroads to establish service charges for handling baggage checked on passenger tickets.

The charges, applicable on railroads in Central, Trunk Line and Southern territories, will be 25 cents for each piece of hand luggage and 50 cents for each trunk. Division 2's adverse report was issued last May (*Railway Age*, June 8, page 10), and the reconsideration by the entire commission was in response to a petition filed by the interested roads.

The commission's present report embodied an 8-to-2 decision, dissenting expressions having come from Commissioners Alldredge and Cross. Commissioner Tuggle did not participate.

Relatively Few Checkers—The majority report noted that the only protestants were two salesmen's organizations and regulatory bodies of southeastern states. It also said that only six per cent of all rail passengers now check baggage. The report then added:

"The long-established practice of transporting a reasonable amount of baggage without charge in addition to the published fare had its inception long before substantial deficits occurred in the passenger operations of railroads generally. The continual occurrence of deficits over a period of years is convincing proof of an important change in transportation circumstances, and we believe that this fact warrants an added charge for these services if the deficits can thereby be diminished."

Eastern Roads Again Extend Economy Fares

"Bargain fare" plans of 15 Eastern railroads have been extended until April 30, 1954, the fourth extension since the "group economy" and "family plan" fares were introduced in June 1952. Both travel plans apply to round-trip coach fares between any two points more than 100 miles apart, with certain exceptions.

Vanderbilt Armold, chairman of the Trunk Line-Central Passenger Committee of the Eastern Railroads, said "more people are taking more frequent and longer trips now than ever before and we believe that the lower fares have been mainly responsible."

Supply Trade

A new parts depot is being built by the **Caterpillar Tractor Company** at Denver, to be in operation about the first of February. It will serve dealers in Colorado, New Mexico, Wyoming, Utah, Texas and Montana.

A new branch of the **Graybar Electric Company** has been opened at Springfield, Ill. **Harry Bryson** has been appointed manager, and **C. W. Kraich** operating manager.

The **Clark Equipment Company** has revamped its dealer organization in the midwest to handle its newly acquired Ross straddle carrier and fork truck lines. Under the new plan, Clark dealers will add Ross products to their regular sales and service activities. Clark acquired the **Ross Carrier Company** earlier this year.

Gilbert E. Jones, assistant sales manager of the electric accounting machine division of the **International**

getting long multiple-unit locomotives across the turntable.

The small percentage of operation conducted by two-unit locomotives causes no great problem. First, the units can be separated easily and quickly because they are coupled together rather than being joined by pulling bars, as is often the case with road units. Second, there are four stalls in the roundhouse which were lengthened to accommodate long-tender steam locomotives. These are long enough to accommodate a pair of switchers coupled together.

How the Roundhouse Was Changed

A glance at the diagram gives a brief picture of the layout of the diesel roundhouse as it is today. The original structure had 38 stalls, of which 33 have been retained. Four, Nos. 35-38, are 130 ft. long; the remainder are 115 ft. long. Stalls 1 through 5 housed the steam locomotive drop pit. This section of the house was torn down to build a 50-ft. by 70-ft. engineman's service building, which houses the road foreman's and crew dispatcher's offices. It has one locker room with washing facilities for IHB enginemen, and a second, including two sleeping rooms with four bunks each, for Michigan Central crews.

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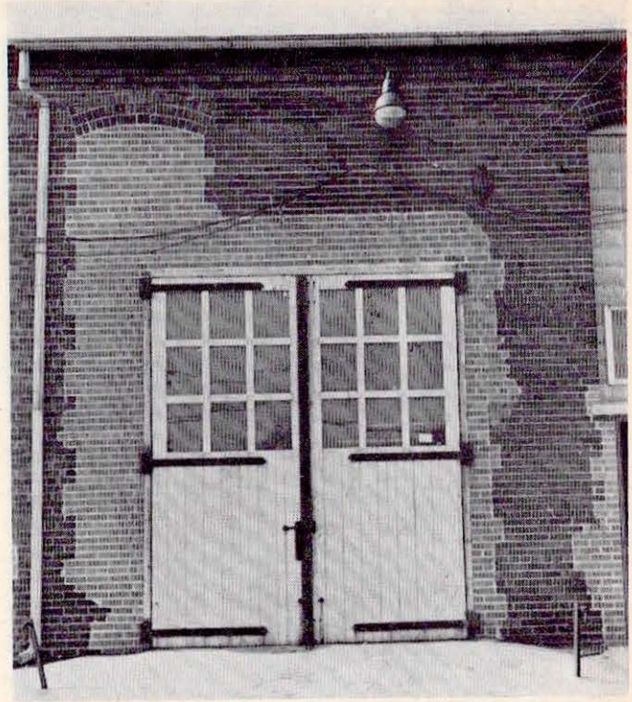

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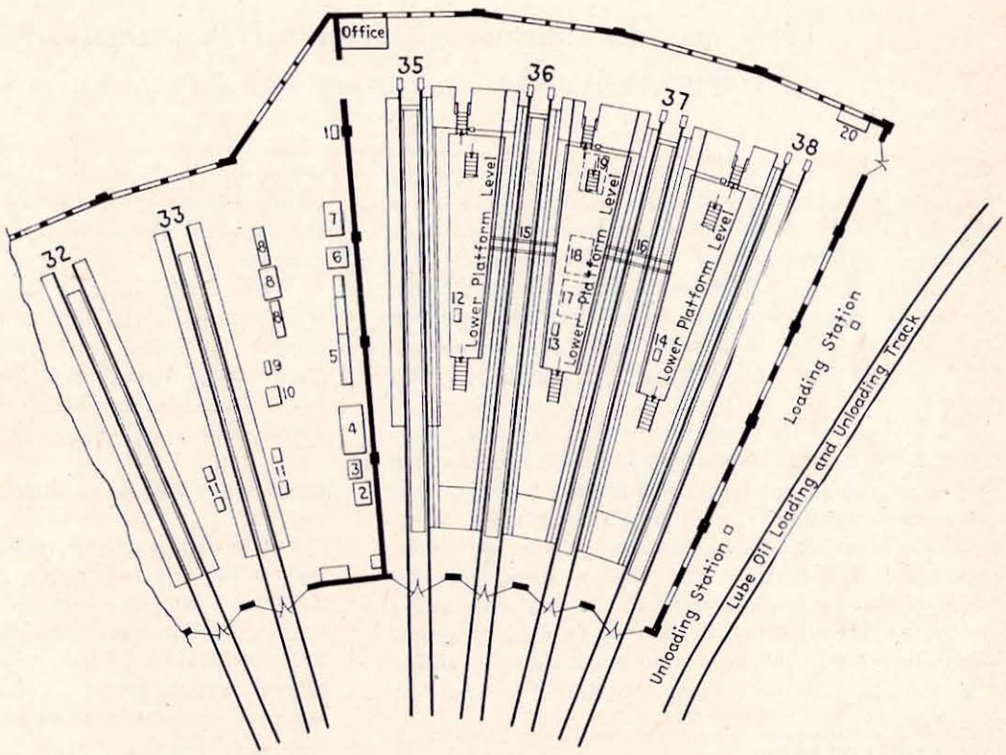

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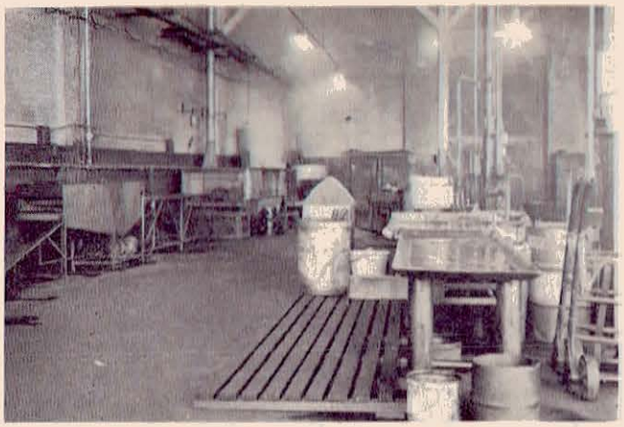


ALL CLEANING WORK, ranging from filters to rough parts cleaning, is handled in Stall 34.

and locomotive wheel work is done at other points with more complete equipment.

Stall 26 has been converted to a diesel parts storeroom. Large double doors (10 ft. wide and 12 ft. high) are installed in the outside wall of the roundhouse adjacent to this storeroom to allow large trucks to enter the house. Similarly, large and high doors are installed at the delivery entrance to the storeroom to allow trucks to back up and deliver directly inside to the storage area. The outside doors are hinged; the inside doors are on overhead rollers and slide to open.

Stalls 27 through 33 have floor level running repair pits. Diesels are maintained in these stalls with the aid of portable platforms, which have parts-holding trays along the outer edge. Stall 27 is used to store heavy materials, such as reservoirs and traction motors. The track in Stall 34 was removed and this area is now devoted to filter and parts cleaning. The cleaning station is operated about three hours per day to fill the road's requirements. Stalls 35 through 38 have depressed floors and platforms for heavier maintenance. Stalls 32, 33 and 35 have foundation jacking pads extending the length of the pits.

What Maintenance Is Done

Running repairs up to but not including complete overhauls are handled at Gibson; the latter work is done in New York Central diesel back shops. Gibson handles running repairs to all IHB power, which is composed of 118 General Motors switching units of either 1,000 or 1,200 hp. The outdoor facilities for sand, fuel, water and inspection are used also for turn-around servicing on Michigan Ceneral road units.

How Railroads Apply Research

. . . TO SECURE IMPROVED OPERATIONS

Three agencies function simultaneously, but largely without overlap, in solving major questions in cooperation with manufacturers

The composite character of railroad research, including that done by individual railroads, supply manufacturers and the Association of American Railroads, was emphasized in a recent address* by W. M. Keller, director of research, Mechanical Division, who pointed out that the A.A.R. annual research budget has been stepped up to about a million dollars, but still represents a small percentage of the total national expenditure for this purpose.

Mr. Keller said that railway supply companies, many of which have large investments in research equipment, have done a good job in improving their products; but that present unsatisfactory railway performance as regards hot boxes and lading damage, with freight claims aggregating $108 million in 1952, is responsible for three specific mechanical research projects now under way at the A.A.R. Research Center in Chicago, namely, journal bearings, draft gears and truck riding qualities.

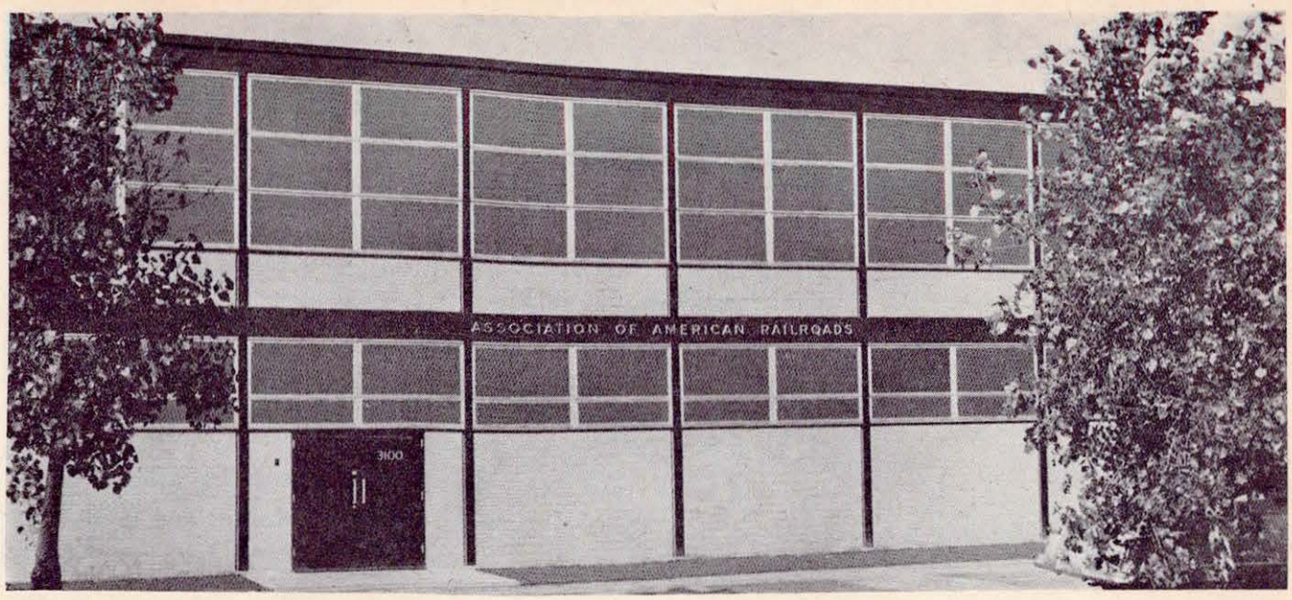
In the study of hot boxes, the Research Center is being directly assisted by individual railroads and the supply industry, and by two outside research agencies, the Armour Research Foundation and the Franklin Institute.

The general objective is to obtain basic data which will provide a guide to help the industry greatly reduce hot boxes, with their attendant expense and train delays. According to Mr. Keller, this program has been somewhat impeded by the long delivery date on special laboratory equipment.

Laboratory Improvements

For further draft-gear research, the mechanical laboratory at the Research Center is being equipped with the 27,000-lb. drop hammer formerly used in laboratory tests at Purdue University. Mr. Keller said that, in this field, invaluable aid has come from supply people; that several manufacturers of draft gears have adequately equipped laboratories which also are being put to good use; and that one of the assignments of the A.A.R.

*Presented at the September 25 meeting of the Railway Supply Group, Union League Club of Chicago.



MECHANICAL LABORATORY BUILDING at the A.A.R. Research Center in Chicago is being equipped with the 27,000-lb. drop hammer formerly used in tests conducted at Purdue University.

Committee on Couplers and Draft Gears is to find an improved draft gear of greater capacity.

Mr. Keller pointed to improved riding qualities of freight car trucks as a result of research initiated by the A.A.R. nearly 20 years ago, and said this program is being continued, utilizing a special machine in the laboratory to accelerate all phases of the work, which can best be done under accurately controlled conditions. He credited the two truck manufacturers that have equipped trains with complete instrumentation as making a major contribution to improved riding qualities of freight cars.

Additional Projects Studied

In addition to the projects mentioned, the Research Center is studying problems of stresses in diesel wheels; how to reduce corrosion of car parts; how to eliminate damage from dripping asphalt box-car ceiling coatings; how to prevent beef from being pulled off meat hooks in refrigerator cars; and how to redesign tank-car attachments to reduce stress.

Further improvement in railroad equipment by means of thorough research was advocated by Mr. Keller, who said: "We recognize that modern research is expensive. One machine we have under construction will cost $60,000 and the installation of another $15,000. This is about the price of three steam locomotives in 1910. The A.A.R. Research Center has an investment of about a million dollars in its two buildings alone, which includes no equipment. But that is not all we depend upon. The railroads and supply companies have additional millions in research equipment.

Basic Research Not Undertaken

"Railroads depend upon applied research as distinguished from basic research. They keep in touch with elopment of new materials but do no research incident to creating these materials. In the field of ferrous metals, railroads depend upon the large steel companies for discovery of new materials. For rubber products, the larger rubber companies have more and better research facilities than railroads could support, so it is natural to depend upon them. Non-ferrous metals, plastics, lumber products, certain electronic equipment, electric motors, lubricating oils, insulations and like materials are all obtained from those best prepared to supply them. Railroad research is concentrated on how they may best be used in rail transportation which is far from a simple undertaking and, in fact, quite complicated.

"A.A.R. laboratories use only the equipment required for investigations immediately under way. Complete instrumentation for strain-gage work is maintained, so that we are in position at all times to analyze stresses in any type of structure. There are tensile and compression testing machines and suitable machines for vibration study. We have no differential analyzer, cyclatron, or electron microscope because we do not have sufficient need for such equipment. Consideration has been given to the necessity for an electron microscope and a spectrographic analyzer, but until requirements develop which would keep such equipment in use a good percentage of the time, we will farm out work of this type.

Key to Better Performance

"Today's vision must become tomorrow's reality. Today we see a great rail transportation system being constantly improved. Although the country's population has increased 50 per cent since 1920, the railroad trackage has remained unchanged or in some light traffic territory has decreased. For the good of the nation, it is easily visualized that its rail facilities must not decrease. Through research to provide better rail transportation, we can make this a reality."

Operations

(Continued from page 18)
ing before the commission. Among the intervenors was one group of 55 short-line roads which came into the case to support the defendants.

The proceeding hinges on a complaint filed by the Burlington and eighteen other Class I roads. These carriers asked the commission to find per diem rates since 1949 have been "just and reasonable," and that uniform observance is required (*Railway Age*, September 28, page 11).

Named as defendants were eight railroads, including the New Haven, the Boston & Maine and the Long Island.

Recent entries in the case of the side of the complainants have been the Soo, Nickel Plate and the Chesapeake & Ohio.

D&RGW's Narrow-Gage "Silver Vista" Car Burned

Car shops of the Denver & Rio Grande Western at Alamosa, Col., have been destroyed by a fire of unknown origin. Damage has been unofficially estimated at $50,000.

Four cars—including three standard-gage freight cars and the widely publicized "Silver Vista" narrow-gage glass-top observation car—were destroyed. About 50 other cars, some in flames, were pulled to safety by crews who worked through the night to keep the fire from spreading to other buildings.

Northwestern Pacific Diesel Program Complete

A two-year dieselization program on the Northwestern Pacific has been completed with acquisition of 40 locomotive units. Steam locomotives have been retired from regular service but some will be retained for service in emergencies and during peak traffic. The diesel units which have replaced them range in size from 800-hp. switchers to 1,500-hp. general-purpose units.

Along with the dieselization program, the road is currently carrying out an extensive installation of train radio. By the end of this year it is expected that most regular freight runs will be equipped for head-to-rear-end and train-to-train communication. Equipment will be installed in 20 locomotives and 20 cabooses, and fixed stations will be located at Willits, Cal., and Eureka.

Accounting

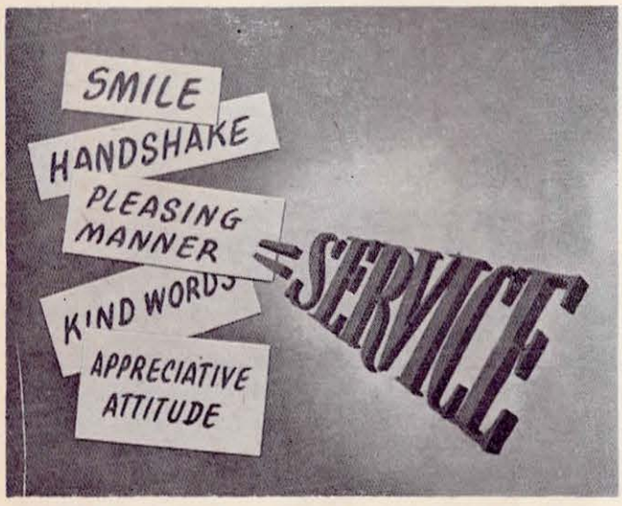
New Edition of Freight Commodity Classification

The new edition of the Freight Commodity Statistics Classification, which will become effective January 1, 1954, has been issued by the Accounting Division, A.A.R. It brings up to date the 1947 edition.

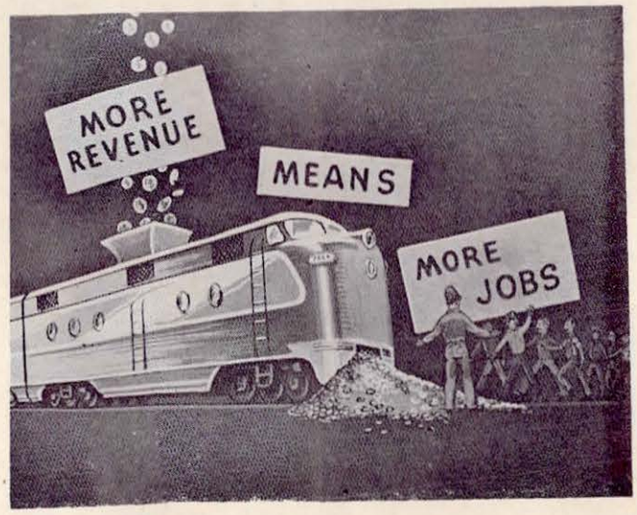
Education

First Industry-College Conference November 12-13

Thirty-five educators and 20 industrialists will participate in the first Industry-College Conference at the Greenbrier Hotel, White Sulphur Springs, W. Va., November 12-13. Arrangements for the conference are being developed on the basis of plans originated by Milton S. Eisenhower, president of Pennsylvania State College, and Robert R. Young, chairman of the Chesapeake & Ohio. Among



SHOWN HOW courtesy pays off . . .



EMPLOYEES are urged to . . .

"HANG OUT THE WELCOME SIGN"

A 30-minute sound-slide film is currently being shown to employees of the Missouri Pacific and the Texas & Pacific to demonstrate the importance of courtesy—implemented by evidence of willing service—in gaining and holding passenger patronage.

"Hang Out the Welcome Sign" is a joint venture of the two roads. It has been filmed entirely in color, and employs a combination of color photographs and artist's drawings, such as those above. The color photos were specially posed with employees of the two roads shown at their regular jobs. In a few cases, professional models were also used. The views were taken at different locations on both roads to enhance the film's "all-inclusive" nature.

Sequences of the film show what train, engine, dining car, sleeping car and parlor car crews can do to please travelers by courteous service. Telephone operators, reservation clerks, baggagemen and others in daily contact with the public are shown how they, too, can play a part; and the film even reaches out to train dispatchers, operators, and mechanical and maintenance of way employees. The film ends with the story of how a "Welcome Sign" displayed to a traveler by a parlor car attendant resulted in "a big payoff."

The script was written by F. O. Garrett, MP operating rules instructor, and much of the photographic work was done by that road's staff photographer.

Technical details of production and recording of the 16-in. double-faced transcription were handled by the public relations department in connection with commercial firms in the field.

those who have accepted invitations to attend the conference are William B. Given, chairman, American Brake Shoe Company; C. C. Jarchow, president, American Steel Foundries; Walter J. Tuohy, C&O president; and Champ Carry, chairman, Pullman-Standard Car Manufacturing Company.

Conference participants will discuss industrial scholarship programs, cooperative work-study programs, research programs of significance to industry and education, educational services for industrial employees, and organized exchange of information and experience between industry and education.

Figures of the Week

August Accidents

The I.C.C. has made public its Bureau of Transport Economics and Statistics' preliminary summary of "steam" railway accidents for August and this year's first eight months. The compilation, subject to revision, follows:

Item	Month of August 1953	Month of August 1952	8 mos. ended with August 1953	8 mos. ended with August 1952
Number of train accidents*	805	915	6,046	6,541
Number of accidents resulting in casualties	40	41	355	353
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	120	105	691	675
Injured	101	116	668	664
Passengers on trains:				
(a) In train accidents*				
Killed	..	..	20	..
Injured	17	3	432	173
(b) In train-service accidents				
Killed	2	2	15	8
Injured	167	159	1,198	1,194
Travelers not on trains:				
Killed	1	..	5	8
Injured	66	57	517	478
Employees on duty:				
Killed	25	21	206	230
Injured	1,787	1,660	13,087	13,258
All other nontrespassers:**				
Killed	117	92	1,014	967
Injured	375	357	3,429	3,423
Total—All classes of persons:				
Killed	265	220	1,951	1,888
Injured	2,513	2,352	19,331	19,190

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $325 or more to railway property in 1952. Beginning January 1, 1953, this minimum was raised to $350. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	101	68	942	856
Injured	216	227	2,243	2,244

1952's Average Revenue Per Ton-Mile Was 1.7 Cents

Class I railroads in 1952 earned an average revenue per ton-mile of 1.7 cents.

This was noted in the latest "Monthly Comment" issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The bureau compared the 1952 average with 1947's 1.27 cents, calling attention to the rise of 34 per cent in a period when average freight rates increased 36 per cent. In the accompanying table, reproduced from the "Comment," the bureau sets out 1947 and 1952 figures, including data reflecting changes in factors other than rates (consist of traffic and length of haul) which also affect average revenue per ton-mile.

Changes in Relative Tonnage, Average Haul, Average Rate, and Ton-Mile Revenue By Commodity Groups, 1947-1952

Commodity group	Ton-mile revenue (cents) 1947	Ton-mile revenue (cents) 1952	Percentage changes, 1947-1952: Relative tonnage	Average haul	Average rate	Average ton-mile revenue
All commodities	1.27	1.70	..	+ 1	+36	+34
I. Products of Agriculture	1.22	1.67	−1	− 5	+35	+37
II. Animals & Products	1.98	2.64	..	+10	+43	+33
III. Products of Mines	.89	1.14	+1	− 1	+30	+28
IV. Products of Forest	1.01	1.25	..	+14	+38	+24
V. Man. & Miscellaneous	1.68	2.31	..	+ 7	+41	+38

Freight Car Loadings

Loadings of revenue freight in the week ended October 24 totaled 804,413 cars, the Association of American Railroads announced on October 29. This was a decrease of 18,126 cars, or 2.2 per cent, compared with the previous week; an increase of 43,640 cars, or 5.7 per cent, compared with the corresponding week last year; and a decrease of 60,387 cars, or 7.0 per cent, compared with the equivalent 1951 week.

Loadings of revenue freight for the week ended October 17 totaled 822,539 cars; the summary for that week, compiled by the Car Service Division, A. A. R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, October 17

District	1953	1952	1951
Eastern	134,805	141,143	147,229
Allegheny	158,587	163,273	173,332
Pocahontas	58,819	50,652	66,197
Southern	131,620	129,805	138,795
Northwestern	134,960	143,555	144,371
Central Western	138,708	142,146	148,427
Southwestern	65,040	67,834	68,297
Total Western Districts	338,708	353,535	361,095
Total All Roads	822,539	838,408	886,648
Commodities:			
Grain and grain products	56,008	54,636	57,380
Livestock	16,017	17,525	18,517
Coal	136,421	123,089	164,620
Coke	12,484	14,893	15,507
Forest products	44,336	44,558	48,514
Ore	78,129	85,390	78,495
Merchandise l.c.l.	72,120	75,205	75,831
Miscellaneous	407,024	423,112	427,784
October 17	822,539	838,408	886,648
October 10	804,070	842,797	868,683
October 3	812,554	851,920	858,757
September 26	819,709	862,065	864,575
September 19	823,884	873,596	863,690
Cumulative total 42 weeks	31,507,202	30,551,021	32,957,787

In Canada.—Carloadings for the seven-day period ended October 14 totaled 74,709 cars, compared with 84,004 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
October 14, 1953	74,709	30,355
October 14, 1952	79,484	34,641
Cumulative Totals		
October 14, 1953	3,160,597	1,295,612
October 14, 1952	3,249,431	1,377,269

Rates & Fares

Traffic-Moving Rates Seen Put on Paper-Rate Basis

Interstate Commerce Commissioner Owen Clarke has objected to commission actions requiring that intrastate rates be increased on commodities with respect to which there is no interstate movement.

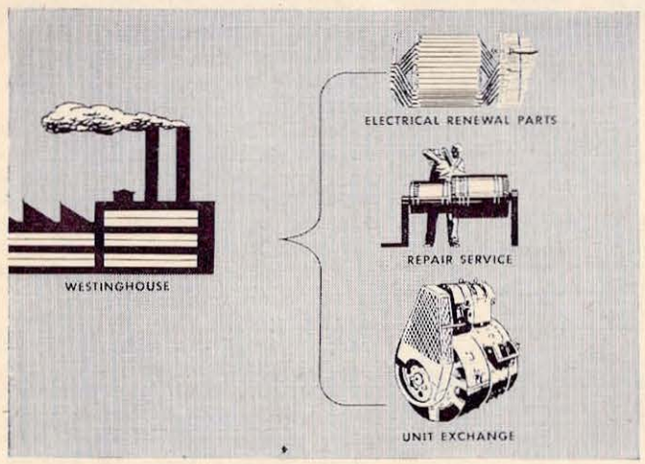
The objections were set forth in a concurring-in-part expression which accompanied a commission report that found unjust discrimination against interstate commerce resulting from the Missouri Public Service Commission's refusal to authorize intrastate increases in line with interstate advances. Mr. Clarke said:

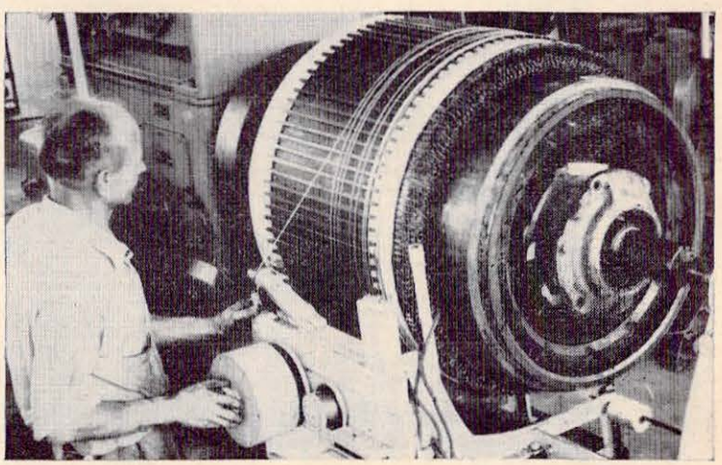
No Basis for Finding—"Since injurious competition is a 'sine qua non' to a finding that intrastate rates cause undue prejudice or preference against interstate commerce, there can be no logical basis for such a finding where the entire movement of a commodity is intrastate in character.

"By the same token the mere comparison of interstate rates which fail to move traffic with lower intrastate rates that do move traffic does not warrant the conclusion that such intrastate movement causes undue . . . discrimination against intrastate or foreign commerce by not contributing its fair share of the earnings required to enable the carriers to provide adequate and efficient transportation service."

The same commission report was also accompanied by a dissenting expression from another new member—Commissioner Howard Freas. He complained that the commission majority acted on a "weak" record. He also had this to say:

(*Continued on page 68*)





Nationwide maintenance service for diesel-electric locomotives:

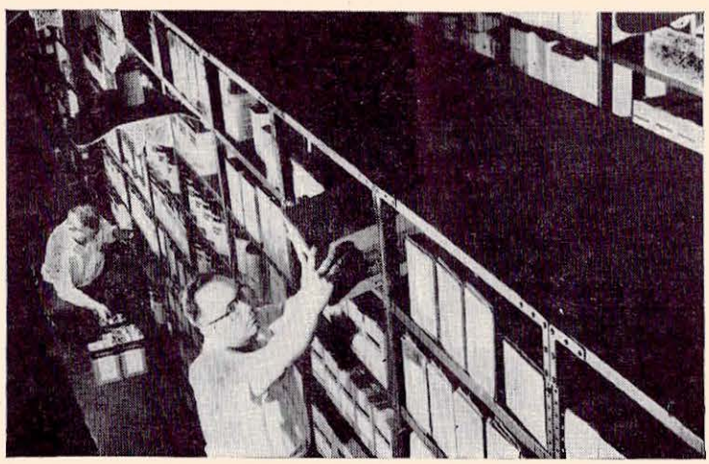
Quality repair and return service is assured by highly skilled craftsmen using factory-approved methods and materials. We offer a nationwide service of 37 repair plants, 24 of which specialize in diesel-traction repairs.

Your electrical maintenance problems solved by new Westinghouse Service Plan

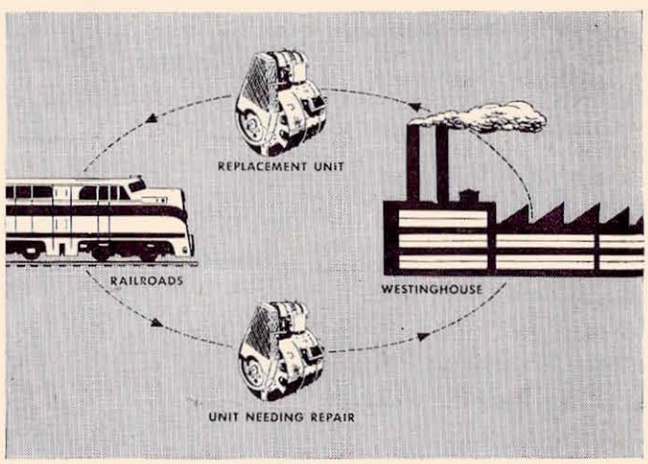
An individually tailored service plan for diesel electric locomotives can be developed to meet your specific requirements. Our transportation specialists will gladly help you work out a plan that will speed and simplify all electrical transactions.

No matter what your service problem may be, a Westinghouse service facility can quickly and efficiently handle your requirements. Let us help you set up a method of operation whereby we can be your electrical maintenance facility. For complete information, write for B-5934, or call your nearest Apparatus Sales Office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania J-93507

YOU CAN BE SURE... IF IT'S Westinghouse



Quickly-available renewal parts are assured by strategically located warehouses. These parts are factory built. They meet the same rigid specifications as your original equipment.



Unit exchange plan available without premium on Westinghouse Equipment... reduce your inventory of complete equipment and eliminate the need for emergency repairs... put locomotives back in service faster with *guaranteed* equipment.

(*Continued from page 65*)

"Carriers should make a full and complete showing before State commissions and our intervention should be limited to instances where it is clear that the state commission's action results in violations of section 13. If a mere difference between our finding of maximum rates and the rates authorized by a state commission is enough to justify the fixing of state rates at the maximum level, then this commission should be empowered simultaneously to establish rates on all traffic and the delay and expense attending the prosecution of proceedings before the state commissions and again before us under section 13 eliminated. The fact that the Congress has not provided for such direct action appears convincing that it did not intend that state commissions are to be replaced indirectly."

California Case — Commissioner James K. Knudson subscribed to the Clarke expression. Commissioner Clarke also filed a concurring-in-part expression with a like commission report in a case involving California intrastate rates. There again he objected to application of the majority finding to California rates on commodities with respect to which there is "little or no" interstate movement.

The Missouri case was docketed as No. 31003; the California case as No. 31219. In both cases, the commission withheld entry of orders; but said they would be issued unless the state authorities permitted the increases called for.

Mont., N. M., and La.—In No. 30674, the commission has vacated a May 20, 1952, order requiring increases in Montana intrastate rates. The action was taken after that state's Board of Railroad Commissioners agreed to authorize the required adjustments.

The commission has instituted an investigation to determine whether New Mexico's intrastate freight rates result in undue discrimination against interstate commerce. Interested railroads sought the inquiry docketed as No. 31359) because the State Corporation Commission of New Mexico has refused to authorize increases in line with Ex Parte 175 advances.

Railroads serving Louisiana have asked the commission to institute an investigation of Louisiana intrastate passenger fares. They complain that they are losing more than $50,000 a year as a result of the Louisiana Public Service Commission's refusal to approve increases in line with intrastate advances authorized last April.

Eastern Railroads File Lower Rates on Iron and Steel

Substantially reduced railroad freight rates on iron and steel products from all points in Eastern territory to all points in Southern territory have been filed with the Interstate Commerce Commission, the Traffic Executive Association—Eastern Railroads has announced. The new rates were established to put shippers in Eastern territory on a comparable basis with similar reductions established by Southern railroads, according to Edgar V. Hill, chairman of the association.

Mr. Hill pointed out that, although November 21 is the earliest effective date that could be established under I.C.C. regulations, Eastern carriers anticipate asking the commission to make the new Eastern rates effective on the same date as the Southern territory tariffs.

He further said the new rates would effect substantial savings for the shippers.

I.C.C. Dismisses Army's Pullman-Fare Complaint

The Interstate Commerce Commission has dismissed an Army complaint that the Pullman Company's charges for berth accommodations in standard and tourist sleeping cars are too high.

The commission's report, by Division 2, found that the assailed charges were not shown to be unjust and unreasonable. The case was No. 31046, the Army's complaint having been filed June 2, 1952.

Southern Roads Offer Drought-Relief Rates

Southern railroads have made a 50 per cent reduction in their freight rates for moving hay in carload lots into drought disaster areas. Western roads previously made a similar concession.

The cuts were made in answer to an appeal by Secretary of Agriculture Benson. He said they "will be of great assistance in the aggressive steps we are taking to bring help to farmers and ranchers in the large areas which have been damaged by prolonged and severe drought conditions."

The reduced rates will be in effect until November 16.

Baggage-Checking Charge Approved by the I.C.C.

Reversing its Division 2, the Interstate Commerce Commission has now authorized eastern and southern railroads to establish service charges for handling baggage checked on passenger tickets.

The charges, applicable on railroads in Central, Trunk Line and Southern territories, will be 25 cents for each piece of hand luggage and 50 cents for each trunk. Division 2's adverse report was issued last May (*Railway Age*, June 8, page 10), and the reconsideration by the entire commission was in response to a petition filed by the interested roads.

The commission's present report embodied an 8-to-2 decision, dissenting expressions having come from Commissioners Alldredge and Cross. Commissioner Tuggle did not participate.

Relatively Few Checkers—The majority report noted that the only protestants were two salesmen's organizations and regulatory bodies of southeastern states. It also said that only six per cent of all rail passengers now check baggage. The report then added:

"The long-established practice of transporting a reasonable amount of baggage without charge in addition to the published fare had its inception long before substantial deficits occurred in the passenger operations of railroads generally. The continual occurrence of deficits over a period of years is convincing proof of an important change in transportation circumstances, and we believe that this fact warrants an added charge for these services if the deficits can thereby be diminished."

Eastern Roads Again Extend Economy Fares

"Bargain fare" plans of 15 Eastern railroads have been extended until April 30, 1954, the fourth extension since the "group economy" and "family plan" fares were introduced in June 1952. Both travel plans apply to round-trip coach fares between any two points more than 100 miles apart, with certain exceptions.

Vanderbilt Armold, chairman of the Trunk Line-Central Passenger Committee of the Eastern Railroads, said "more people are taking more frequent and longer trips now than ever before and we believe that the lower fares have been mainly responsible."

Supply Trade

A new parts depot is being built by the **Caterpillar Tractor Company** at Denver, to be in operation about the first of February. It will serve dealers in Colorado, New Mexico, Wyoming, Utah, Texas and Montana.

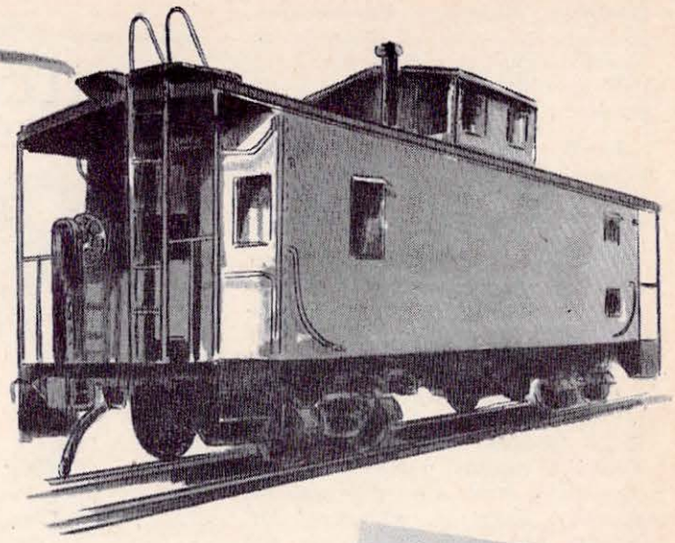
A new branch of the **Graybar Electric Company** has been opened at Springfield, Ill. **Harry Bryson** has been appointed manager, and **C. W. Kraich** operating manager.

The **Clark Equipment Company** has revamped its dealer organization in the midwest to handle its newly acquired Ross straddle carrier and fork truck lines. Under the new plan, Clark dealers will add Ross products to their regular sales and service activities. Clark acquired the **Ross Carrier Company** earlier this year.

Gilbert E. Jones, assistant sales manager of the electric accounting machine division of the **International**

here's the...

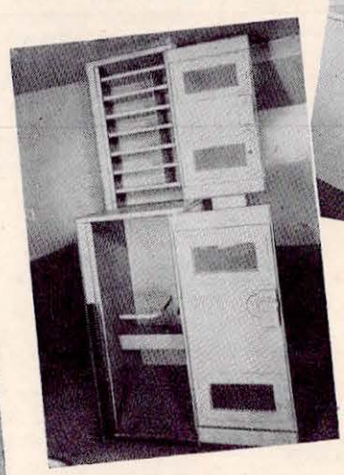
Inside Story...



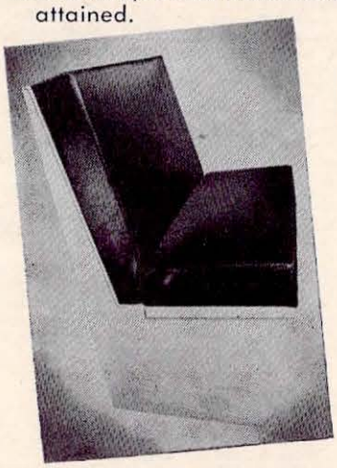
of IRC Cupola or Bay Window Cabooses

Why did thousands of railroad men come aboard to see International Cabooses in showings at Chicago and Atlantic City? And what were the comments? Railroaders came to see the new developments and all were impressed with International Caboose interior designs and equipment — for these details make it evident the cars are designed and built by men who know from every experience angle just what the inside of a caboose should be for safety and efficiency — for construction that serves through the years without maintenance cost — for production technique that achieves car **value** never before attained.

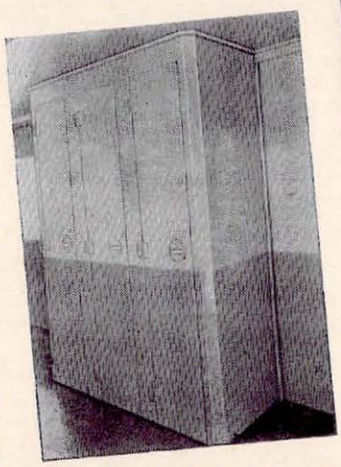
Two-place desk arrangement. Swivel seats lock in place. Note safety arms.



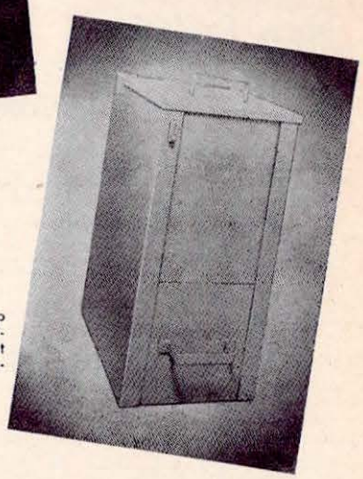
Compact steel cabinet for marker lamp, dope and oil can storage. Stationery locker above.



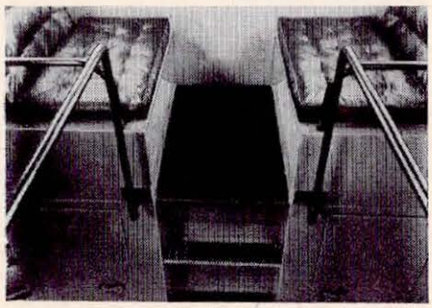
Conductor seat arrangement. Steel frame, foam rubber seat and back, storage room under seat.



Flight of 3 steel clothes lockers. Note rounded corners and recessed handles for safety.



Steel coal box, top loading, bottom feeding, baffled to prevent coal from flowing onto floor.



Cupola seating arrangement. All steel construction, curled hair cushions. Note safety grabs.

Your inquiry by letter or phone will bring you complete information — without cost or obligation.

International RAILWAY CAR CO.

GENERAL OFFICES
BUFFALO, N. Y.

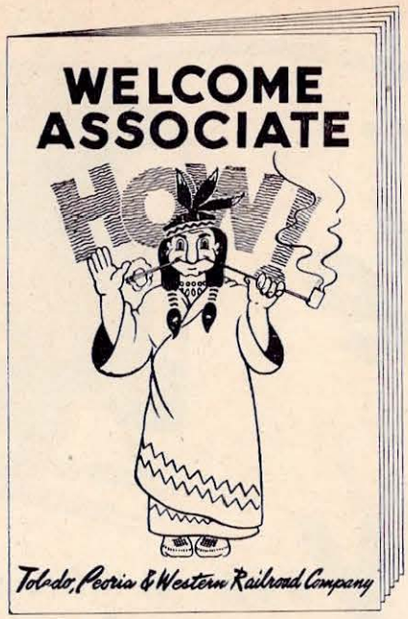
Business Machines Corporation, has been promoted to executive assistant assigned to general administrative activities in the office of the president.

E. W. Spannhake has been appointed director of engineering and research for the **LeTourneau-Westinghouse Company.**

Martial A. Honnell has been elected a vice-president and chief engineer of the **Measurements Corporation,** a wholly owned subsidiary of **Thomas A. Edison, Inc.**

Carlton D. Stewart, who retired as vice-president of engineering, Air Brake Division, **Westinghouse Air Brake Company,** earlier this year, has severed active connection with the company. Since his retirement, Mr. Stewart had acted as advisor and consultant on special projects.

Stockholders of the **New York Air Brake Company** and the **Kinney Manufacturing Company,** a subsidiary, will be asked to vote in December on a plan to merge the companies. Kinney would retain its identity and continue to function as an independent unit with its own manufacturing and sales organization. The merger plan provides for exchange of 4¼ common shares of Air Brake for each Kinney preferred share and three Air brake common shares for each Kinney common share outstanding. It is estimated the exchange will increase Air Brake's outstanding common stock by not more than 10,000 shares.



NEW EMPLOYEES of the Toledo, Peoria & Western are given a copy of this eight-page booklet which explains the "how's" of fitting into the railroad's organization quickly. Typical of its effective, yet informal, approach is the placing of payday information on page one because: "First and nearest to your heart is your paycheck." TP&W President J. Russel Coulter will furnish a copy to interested railroad officers upon written request.

New Facilities

New Railroad for Arizona

The San Manuel Arizona Railroad Company has been incorporated at Phoenix, Ariz., to construct and operate a common carrier railroad connecting the reduction plant of the San Manuel Copper Corporation with the Southern Pacific—a distance of about 30 miles.

The copper reduction plant is located approximately seven miles south of the town of Mammoth, in Pinal county. The line will be built northwesterly to the San Pedro river, and thence along the river to the SP's Christmas branch at Heydon Junction. The Utah Construction Company and the Stearns-Roger Manufacturing Company will build the road.

Burlington Starts Work on Two New Passenger Stations

Twice on the same day, Harry C. Murphy, president of the Burlington, took spade in hand to break ground for new passenger stations.

At Hannibal, Mo., on the morning of October 21, he led off construction of a $120,000 one-story building of modern design that will house a waiting room, ticket office, train crew quarters, baggage office and a valuables room. The John Martin Construction Company of Hannibal, will complete the station by mid-1954. Then Mr. Murphy went on to Quincy, Ill., where he spaded the first dirt for construction of a $275,000 passenger station that will feature an air-conditioned lunch room. The Quincy station will be adjacent to the Burlington's present temporary station facilities there, which have been termed "West Station" to distinguish them from the now-discontinued station in Quincy proper. Russell Allen, Quincy contractor, has estimated the station will be completed in from nine to 12 months.

City of Chicago.—The public works commissioner has announced that bids will be sought on construction of nearly a half-mile of twin subway tubes to connect the present Milwaukee-Dearborn subway line with rapid transit facilities being built in connection with the Congress street superhighway. The tubes will link with an open-cut subway line to be built in the median strip of the highway project. The city expects the project to cost $3 million or more and to require about 18 months to complete. Among other things it will involve cutting through several caissons supporting the post office building and temporarily shifting their load to cribbing.

Piedmont & Northern.—Present shops at Pinoca, N.C., will be renovated to provide for diesel engine maintenance, as part of the program to complete dieselization of the road's motive power (See Equipment and Supplies column). Approximately $1,000,000 will be spent for new diesel units and diesel shop facilities.

Securities

Authorization

BALTIMORE & OHIO.—To assume liability for $1,500,000 of series FF equipment trust certificates, third and final installment of a $10,005,000 issue. Proceeds from this third installment will be applied toward purchase of 11 sleeping cars costing an estimated $2,000,020 (*Railway Age*, September 28, page 37). Division 4 approved sale of the certificates for 99.432 with interest at 3¼ per cent—the bid of R. W. Pressprich & Co. and two associates—which will make the average annual cost of the proceeds to the road approximately 3.37 per cent. The certificates, dated December 1, 1952, will mature in 15 annual installments of $100,000 each, beginning December 1, 1953. They were reoffered to the public at prices yielding from 2.5 to 3.35 per cent, according to maturity.

Applications

CHICAGO, BURLINGTON & QUINCY.—To assume liability for $5,400,000 of equipment trust certificates, to finance in part 35 diesel units costing an estimated $6,746,000.

	Description and Builder	Estimated Unit Cost
15	1,500-hp. GP7 units (Electro-Motive Division, General Motors Corporation)	$170,000
20	1,500-hp. SD7 units (General Motors)	211,000

The certificates, to be dated November 1, would mature in 30 semiannual installments of $180,000 each, beginning May 1, 1954. They would be sold by competitive bidding, with interest rate to be set by such bids.

ERIE.—To assume liability for $5,400,000 of equipment trust certificates, to finance in part 1,000 freight cars costing an estimated $6,937,652.

	Description and Builder	Estimated Unit Cost
490	50-ton box cars (Pullman-Standard Car manufacturing Company)	$6,358
10	50-ton box cars (Pullman-Standard)	7,650
200	50-ton box cars (company shops)	7,979
300	70-ton fixed-end gondola cars (Greenville Steel Car Company)	7,166

The certificates, to be dated January 15, 1954, would mature in 15 annual installments of $360,000 each, beginning January 15, 1955. They would be sold by competitive bidding, with interest rate to be set by such bids.

Dividends Declared

ATLANTA & WEST POINT.—$3, payable December 17 to holders of record December 4.

BALTIMORE & OHIO.—common, $1; 4% non-cumulative preferred, $4; both payable December 8 to holders of record November 6.

GREAT NORTHERN.—Non-cumulative preferred, $1, quarterly, payable December 18 to holders of record November 25.

ILLINOIS CENTRAL.—$1.25, quarterly, payable December 14 to holders of record November 12.

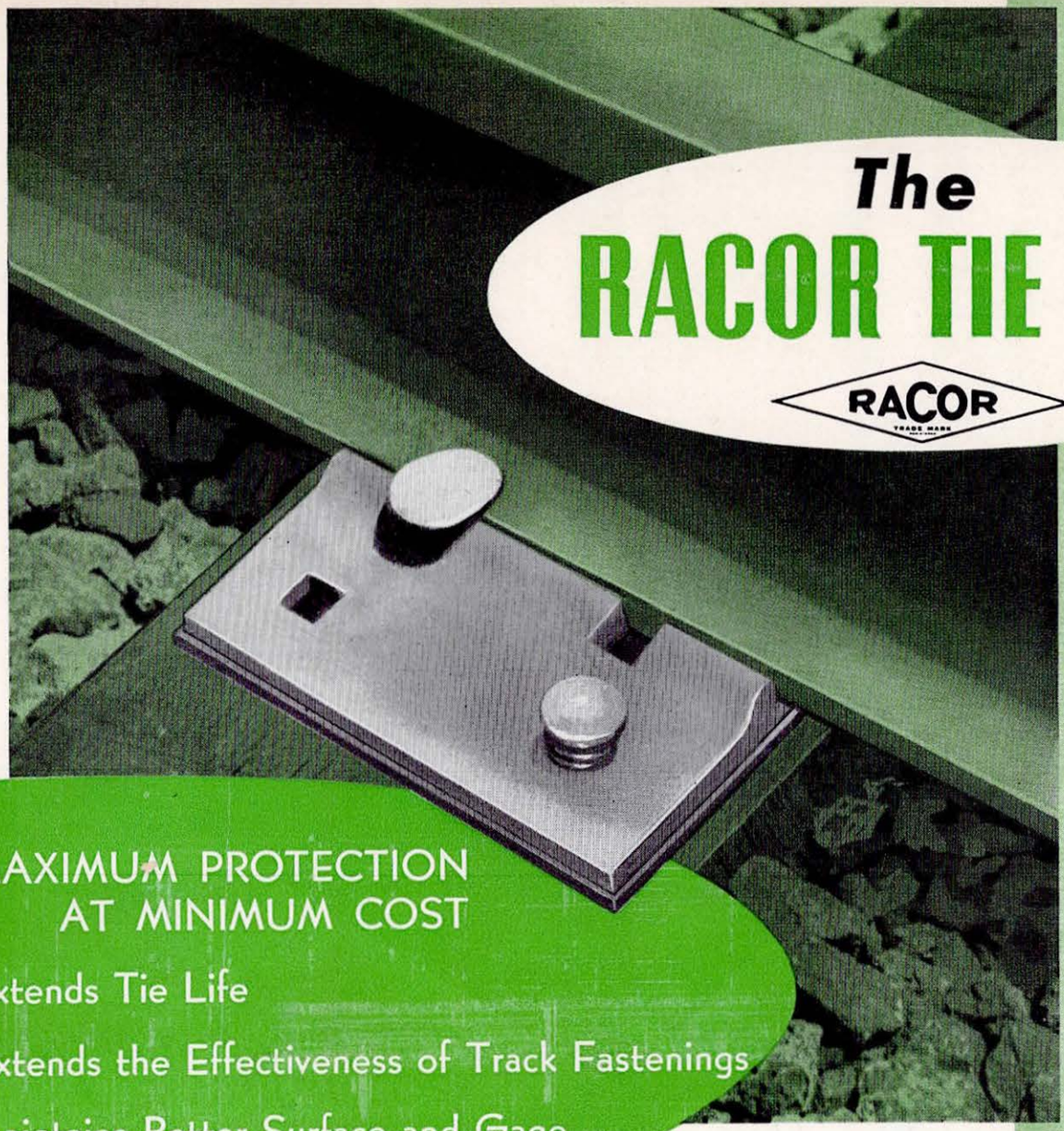
PENNSYLVANIA.—75¢, payable December 7 to holders of record November 9.

WESTERN OF ALABAMA.—$5, payable December 17 to holders of record December 4.

Security Prices

	Oct. 27	Prev. Week	Last Year
Average price of 20 representative railway stocks	58.89	58.41	61.81
Average price of 20 representative railway bonds	90.50	90.35	92.16

(*News continued on page 74*)



The RACOR TIE PAD

RACOR

★ MAXIMUM PROTECTION AT MINIMUM COST

★ Extends Tie Life

★ Extends the Effectiveness of Track Fastenings

★ Maintains Better Surface and Gage

The RACOR TIE PAD is a rubber-fibre pad coated with an asphaltic compound. It is designed for maximum durability and protection of the tie at minimum cost. Although of minimum thickness, it possesses the necessary strength to withstand the destructive forces in track.

Exhaustive tests on the TIE WEAR MACHINE show that the RACOR TIE PAD is most effective in preventing tie abrasion, in maintaining a clean, comparatively moisture-free tie under the pad — and in maintaining its own shape and physical properties under severe test conditions. Intensive research and years of experience in this type of manufacturing has given us the "know-how" to produce the RACOR TIE PAD of a material with maximum utility and most economically.

Contact your nearest RAMAPO representative for further information.

America's most complete Line of Track Specialties

RACOR STUDS

AUTOMATIC SWITCH STANDS

VERTICAL SWITCH RODS

SAMSON SWITCH POINTS

SWITCH POINT LOCKS

RAIL LUBRICATORS

ADJUSTABLE RAIL BRACES

DEPTH HARDENED CROSSINGS

REVERSIBLE MANGANESE STEEL CROSSINGS

MANGANESE STEEL GUARD RAILS

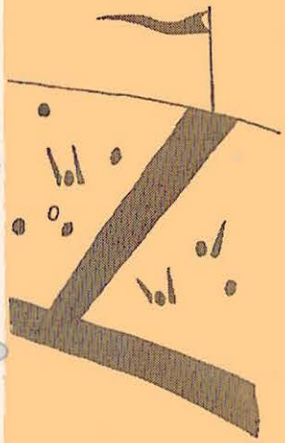
MANGANESE STEEL SWITCH POINT GUARD RAILS

AMERICAN Brake Shoe COMPANY

RAMAPO AJAX DIVISION

109 North Wabash Avenue, Chicago 2, Ill.

stop....



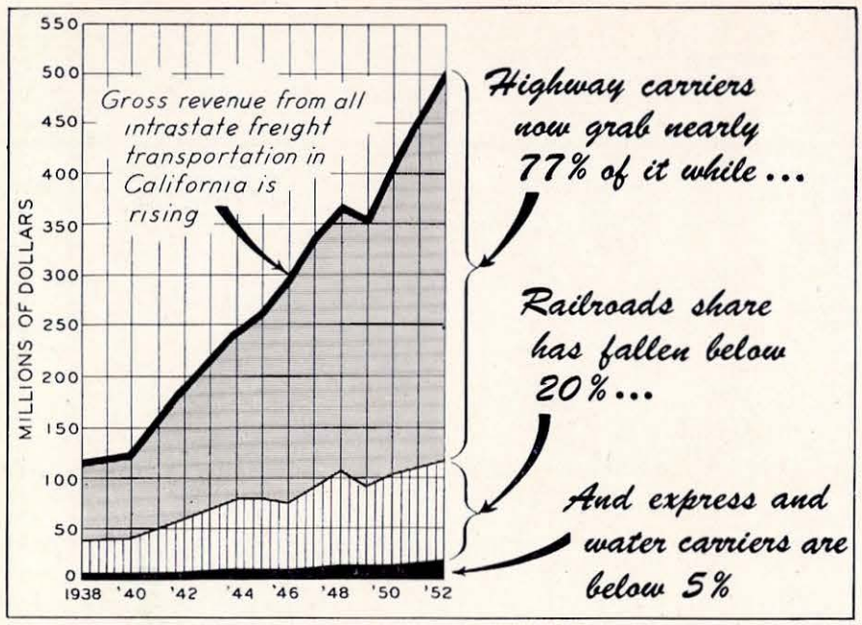
Hit 'em hard for a sure stop—that's what makes a good lineman. And it's the incomparable stopping ability of Diamond "S" brake shoes that makes them the leader in their field.

Proved by use in all weather and operating conditions Diamond "S" shoes are the overwhelming preference of the railroads. Our progressive research and manufacturing methods will continue to provide the best in railroad brake shoes.

AMERICAN
Brake Shoe
COMPANY

BRAKE SHOE AND CASTINGS DIVISION

1974



California Studies Reveal . . .

HIGHWAY TRANSPORT'S RISE

. . . Even in a "Long-haul" State

On its own motion, the California Public Utilities Commission has been conducting a study of all freight transportation within the state and the regulations under which it operates (*Railway Age*, August 10, page 14). Because California requires motor carriers to file equipment schedules and other data well beyond that sought by most state commissions, statistical studies prepared for this investigation provide some revealing facts about the motor carrier industry like, for example, the figures shown on the chart above.

Those figures require some qualification:

- They are limited entirely to intrastate hauls—except in a few instances where traffic moves out of the state for short distances on highways straddling state lines, etc.
- They are based on fees collected under the state's transportation fund act, and thus shed some light on the relative traffic density handled by the physical plant of the railroads as compared with highway vehicles and water vessels.
- They do not include one significant segment of California's transport industry which is not subject to regulation, i.e., the so-called "property operations" of lumber companies, oil companies and others who haul their own cargo in their own vehicles.
- They do not account for carriers who operate entirely on private property, such as public utilities, ranch trucks, oil field vehicles, etc. These latter groups would further inflate the highway carriers' share of revenue if they were added to the graph.

Big Fleet—The studies showed that, as of April, this year, there were approximately 15,000 for-hire trucking companies in California, operating nearly 85,000 vehicles under regulation by the commission. These carriers ran a total of 49,300 trucks and tractors and 32,760 full or semi-trailers. A vast majority (almost 90 per cent) of the operators have fleets of less than 10 vehicles and account for only about 34 per cent of total vehicles operated. The greatest single segment of the fleet, percentagewise, is owned by big operators (over 100 vehicles).

Carrier Types—The state requires that a certificate of public convenience and necessity be issued for petroleum irregular route carriers as well as highway common carriers. Other carriers, such as radial (distributive) highway common carriers, highway contract carriers, petroleum contract carriers, household goods carriers and city carriers (drayers), operate on permits. Neither are prevented from having more than one type of operating authority, and in actual practice a typical carrier may hold several.

The 411 certificated highway carriers, in April for instance, actually held 1,320 certificates and permits. The 14,637 permitted carriers, when counted at the end of last February, held a total of 21,846 permits. Last year the certificated carriers earned (from both certificated and permitted operations) 37.7 per cent of the gross operating revenue shown in the highway section of the chart. They did this with about 29 per cent of the vehicle fleet. The permitted carriers earned 62.3 per cent of the total highway revenue with about 71 per cent of the vehicle fleet.

From the standpoint of carrier size, it's the large carrier (receiving over $50,000 gross income annually), that now dominates the California highway scene. While they are few in number (about 10 per cent of the total), they accounted for more than 84 per cent of the gross income and nearly 55 per cent of the vehicle fleet.

Organizations

Dining Car Officers Say Good Service Comes First

Dining car officers have expressed concern over possible results of forthcoming railway wage negotiations. Meeting at New Orleans on October 13-15, members of the Association of American Railroad Dining Car Officers said it is now "practically impossible" to strike an equitable balance between providing top service and incurring minimum losses. They reported wages for a standard dining car crew have soared 263.5 per cent in the past ten years. Despite which, the members feel that service must remain their first consideration; that good food in sufficient variety, properly prepared and served by courteous personnel is the only route to satisfied patrons—and that satisfied patrons mean increased freight and passenger revenues.

W. H. Berghegger

Elected—For the ensuing year, the association selected W. H. Berghegger, superintendent of dining and parlor cars, Gulf, Mobile & Ohio, to serve as its president. C. G. Douglass, general superintendent of dining cars of the Seaboard, was named vice-president; and a past president, P. E. Griffith, superintendent of dining cars of the Wabash, was named secretary-treasurer for an additional term. The meetings were conducted by H. I. Norris, manager of the Union Pacific's dining car and hotel department, who retired as president at the close of the meeting.

The **New York Financial Writers' Association** will hold its 12th annual "Financial Follies" in the grand ballroom of the Astor Hotel, New York, on November 20.

The annual banquet and election of officers of the **Transportation Club of the Petroleum Industry** will be held in the Bismark Hotel, Chicago, at 6 p.m., November 9.

The **Women's Traffic Club of San Francisco** will celebrate its 28th an-

WANT TO TAKE A DARE?

Here's a challenge to any owner of any competitive machine.

Your Caterpillar Dealer will demonstrate any Caterpillar-built machine against any competitive unit . . . and he'll do it on the job.

He'll do it—not with a chip on his shoulder—but to show you that a Caterpillar-built machine will do your job better, with more production in less time and for a longer period without down time that costs you money in time and repairs.

If you own Cat* equipment you know it will do these things. If you're using another make, here's your chance to find out whether or not you're getting your money's worth.

If you've never used Caterpillar equipment on your job, our dare gives you a chance to compare the working ability of Cat machines with others.

Take the dare . . . get a demonstration . . . any way you look at it, you'll be the winner.

Call your Caterpillar Dealer and say, "Yes, I'll take your dare." Tell him where and when. He'll do the rest.

Caterpillar Tractor Co., Peoria, Illinois.

CATERPILLAR*

*Both Cat and Caterpillar are registered trademarks—®

NAME THE DATE... YOUR DEALER WILL DEMONSTRATE

niversary with "Bosses' Night" at the St. Francis Hotel, San Francisco, November 12. Malcolm W. Roper, vice-president of the Western Pacific, will be guest speaker.

The **National Association of Travel Organizations** will hold its 13th annual convention at the Greenbrier Hotel, White Sulphur Springs, W.Va., November 15-18.

The **Southern Association of Car Service Officers** will hold its next meeting in the Piedmont Hotel, Atlanta, on January 27-28, 1954.

The **Columbus Transportation Club** will hold its next regular monthly educational luncheon at Riverside Recreation, Inc., Columbus, Ohio, on

SELF-CONTAINED power and heating equipment enables this Great Northern instruction car to operate anywhere, anytime. It is, literally, an . . .

"ON-THE-SPOT" INSTRUCTION CAR

To bring its safety program to men "on the ground" all over the system, the Great Northern has completed an instruction car, with a 68-seat auditorium, that can be operated without need for outside electrical or steam connections.

Self-contained steam and electrical generating equipment will make it possible to catch yard engine crews, for instance, right at lead tracks where they go on and off duty. Section men will visit the car at points along the line where they can be conveniently assembled, while extra gangs, district gangs, bridge and building forces, communications crews, etc., will find the car set out with their outfit cars for whatever time it takes to cover all such men in the area.

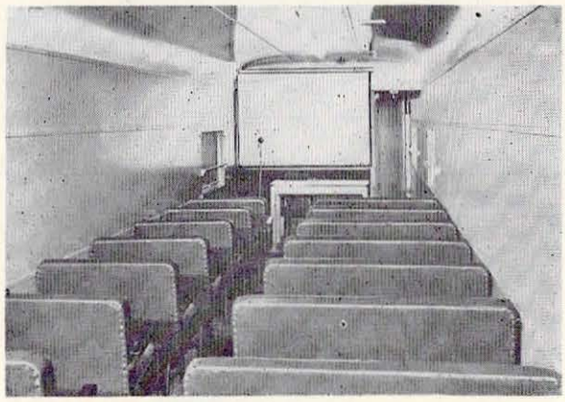
For its initial assignment this former dormitory car will present an approximately one-hour-long safety instruction film to enginemen and trainmen, yardmen, shop and roundhouse men, trackmen and bridge and building and communications men.

Other uses will be made of the car later. The GN is considering its use in supervisory training, lectures and other instruction assignments. But the car's great value lies in its ability to present its programs "on-the-spot."

The projection room at the rear of the auditorium contains a Bell & Howell Filmosound 202-B-1, 16-mm. sound motion picture projector equipped to permit both recording and playback of music or commentary as films are shown on the screen. (The magnetic strip principle on which this is based was described in the March 31, 1952, *Railway Age*, page 26.) This enables re-recording commentary from showing to showing to fit requirements of different employee groups or occasions. Other equipment includes a DuKane automatic sound slide film projector; a Visual-Cast projector which throws on the screen the image of sketches, drawings or instructions made on transparent material (thus eliminating the usual blackboard), and a Magnecord tape recorder.

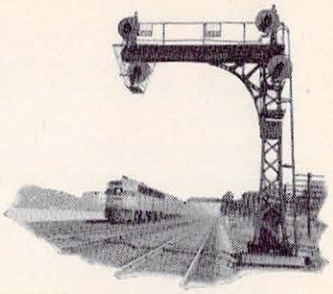
The room has a raised floor and is equipped with all necessary devices for film maintenance and storage. It also contains a public address amplifier and control equipment, by which the different audio units are operated through four accordion-type RCA loud speakers flush-mounted in a staggered arrangement in the auditorium ceiling. Extra speakers are located in the projector room (for monitoring purposes) and in the stateroom at the other end of the car. Provision is also made for communication radio. All this equipment is powered by 117-volt alternating current provided by a 2-kw. motor alternator. Basic power sources are a 4-kw. axle-driven generator and a Waukesha 7½-kw. propane engine generator.

A Stateroom beyond the "stage" of the auditorium contains a sofa and berth, a lavatory with shower, a small refrigerator, a hotplate, writing desk, radio and other conveniences. The entire car is air conditioned. Overhead is a Trane blow-through type cooling unit; air is distributed in the auditorium through Pyle-National multivent panels. Under the car are a Waukesha ice engine (propane-powered) and Waukesha sub-coolers. Vapor Heating Corporation fin-type floor heat is provided throughout and there is a Bryant gas emergency heater located in one of the vestibules.

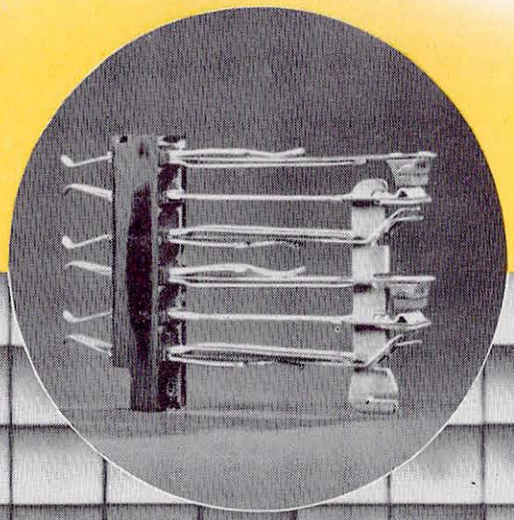


FORWARD IN THE AUDITORIUM is a speakers' platform and a stateroom where speakers may await their audience. The platform is raised four inches above the floor. And behind the screen is a large illuminated translucent picture of a national park scene which adds a decorative touch to the car between showings.

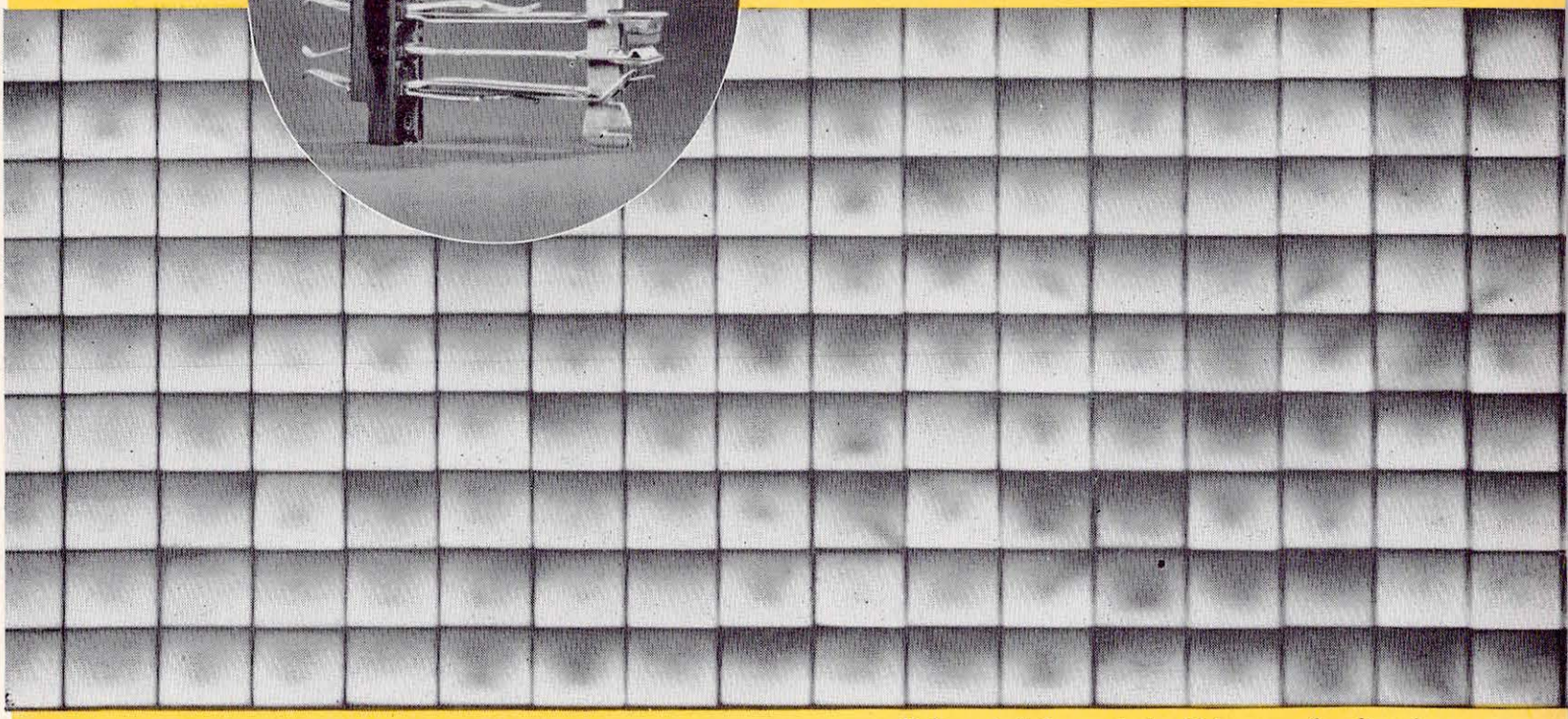
These relay contacts



spell train safety—



Relay contact assembly showing silver-carbon contacts.



Radiograph discloses contacts with improper silver dispersion.

RADIOGRAPHY gives them the "Green Light"

RELAY CONTACTS for railway signals must have low resistance. Ideally, this would call for silver touching silver—but pure silver contacts might fuse if overloaded and the signal lock on green. Carbon contacts can avoid this but have too high resistance.

The answer lies in impregnating carbon with silver, then making sure by radiography that the silver grains are properly dispersed throughout the carbon. This provides assurance that the relay will have a non-fusing contact with low resistance.

It's another example of how radiography can prove internal soundness, whether in such a compound as this, in a casting, or a weld.

Radiography is improving products and production in many kinds of operations. To learn how it can help you, see your x-ray dealer.

EASTMAN KODAK COMPANY
X-ray Division, Rochester 4, N. Y.

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another important function of photography

Kodak
TRADE MARK

November 12. C. H. Pernter, assistant freight traffic manager rate department, Norfolk & Western, will be guest speaker.

Walter J. Tuohy, president of the Chesapeake & Ohio, has been elected to the board of directors of **Bituminous Coal Research, Inc.**

The 24th annual exhibition of the **New York Society of Model Engineers** will be held in the Lackawanna Terminal, Hoboken, N.J., February 11-24. All model builders are invited to display their work. Cash awards and certificates of merit will be given to builders of prize winning models in various classes.

At the recent annual meeting of the **American Association of Traveling Passenger Agents** W. C. Widenhoefer, district passenger agent of the Northern Pacific, was elected president for 1954, and C. W. Hancock, general agent, Chicago & North Western, vice-president. C. A. Melin was reelected secretary-treasury.

James G. Manning has been appointed assistant traffic manager of the **West Coast Lumbermen's Association.** Mr. Manning succeeds Emil Hanson, who retired last June 30 after 31 years with the association's traffic department.

Stanley Price of the Western Electric Company and Earl B. Candell of the General Electric Company have been elected, respectively, chairman and president of the **Society of Industrial Packaging and Materials Handling Engineers.**

The **Eastern Association of Car Service Officers** will hold its fall meeting at the Hotel St. Moritz, New York, November 12-13. Speaker at luncheon on the 13th will be John E. Kusik, vice-president—finance, Chesapeake & Ohio, whose subject will be "Freight Car Turnaround."

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 126 reports (Form IBS) representing 130 steam railways

(Switching and Terminal Companies Not Included)

Income Items	United States For the month of July 1953	1952	For the seven months of 1953	1952
1. Net railway operating income	$ 94,427,908	$ 61,161,230	$643,257,676	$503,724,403
2. Other income	17,366,199	16,801,393	128,668,713	124,338,624
3. Total income	111,794,107	77,962,623	771,926,389	628,063,027
4. Miscellaneous deductions from income	3,145,749	3,142,650	27,500,203	27,976,931
5. Income available for fixed charges	108,648,358	74,819,973	744,426,186	600,086,096
6. Fixed charges:				
6–01. Rent for leased roads and equipment	6,197,291	5,974,107	43,546,858	45,308,138
6–02. Interest deductions[1]	27,296,039	26,861,772	190,129,470	185,052,913
6–03. Amortization of discount on funded debt	256,884	245,445	1,759,370	1,722,137
6–04. Total fixed charges	33,750,214	33,081,324	235,435,698	232,083,188
7. Income after fixed charges	74,898,144	41,738,649	508,990,488	368,002,908
8. Other Deductions	2,909,774	3,223,885	19,764,055	20,675,979
9. Net income	71,988,370	38,514,764	489,226,433	347,326,929
10. Depreciation (Way and structures and Equipment)	42,155,656	40,706,914	290,935,812	278,552,697
11. Federal income taxes	51,878,806	26,052,063	367,386,806	292,866,274
12. Dividend appropriations:				
12–01. On common stock	19,780,491	6,862,885	144,458,005	120,298,217
12–02. On preferred stock	4,474,575	5,072,137	49,822,936	46,199,007
Ratio of income to fixed charges (Item 5 ÷6—04)	3.22	2.26	3.16	2.59

Selected Expenditures and Asset Items	United States Balance at the end of July 1953	1952
17. Expenditures (gross) for additions and betterments—Road	$215,110,767	$213,847,260
18. Expenditures (gross) for additions and betterments—Equipment	528,838,144	594,567,090
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	461,390,539	495,601,040
20. Other unadjusted debits	91,561,907	87,579,709
21. Cash	851,365,655	740,586,494
22. Temporary cash investments	956,104,950	870,891,138
23. Special deposits	73,662,752	73,484,754
24. Loans and bills receivable	625,418	878,078
25. Traffic and car-service balances—Dr.	64,133,925	66,795,163
26. Net balance receivable from agents and conductors	174,966,986	144,152,079
27. Miscellaneous accounts receivable	358,779,441	370,928,721
28. Materials and supplies	833,081,872	892,140,405
29. Interest and dividends receivable	11,369,213	13,851,452
30. Accrued accounts receivable	228,308,965	204,580,032
31. Other current assets	36,694,666	34,044,421
32. Total current assets (items 21 to 31)	3,589,093,843	3,412,332,737
Selected Liability Items		
40. Fund debt maturing within 6 months[2]	$163,802,115	$232,131,845
41. Loans and bills payable[3]	2,536,358	8,035,599
42. Traffic and car-service balances—Cr.	105,614,264	96,709,326
43. Audited accounts and wages payable	510,841,089	504,388,555
44. Miscellaneous accounts payable	209,457,279	202,752,828
45. Interest matured unpaid	26,594,656	25,871,412
46. Dividends matured unpaid	4,019,046	7,159,901
47. Unmatured interest accrued	74,479,023	73,221,601
48. Unmatured dividends declared	34,279,885	25,289,949
49. Accrued accounts payable	220,401,133	205,351,880
50. Taxes accrued	833,501,358	799,973,811
51. Other current liabilities	92,034,080	90,714,841
52. Total current liabilities (items 41 to 51)	2,113,758,171	2,039,469,703
53. Analysis of taxes accrued:		
53–01. U. S. Government taxes	631,567,693	600,248,509
53–02. Other than U. S. Government taxes	201,933,665	199,725,302
54. Other unadjusted credits	281,374,501	267,747,614

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.

Financial

Chicago, Milwaukee, St. Paul & Pacific.—*Sale of Line.*—The Chicago Transit Board, governing body of the Chicago Transit Authority, has voted to purchase for $7 million the Milwaukee's former Evanston-Wilmette suburban route. The line extends 8.58 miles from a point near Wilson avenue, in Chicago, through Evanston to a terminal in Wilmette. It has been leased by the Milwaukee since 1907 and is operated as part of the city's rapid transit system. Local freight service has been performed by the Transit Authority through an interchange with the Milwaukee at Buena Park yard. This service will presumably be turned over to the Chicago North Shore & Milwaukee, which operates freight and passenger trains over the route. The sale was financed by 25-year 4½ per cent bonds, for which the Milwaukee was the only bidder at public offering.

Chicago North Shore & Milwaukee.—*Reorganization Plan Approved.*—Stockholders have approved the plan of reorganization under which this company's motor coach operations will be segregated from railway operations (*Railway Age*, July 20, page 23).

Illinois Central.—*Acquisition.*—Division 4 of the I.C.C. has authorized Mississippi Valley Corporation, a wholly owned IC subsidiary, to acquire control of the 187-mile Vicksburg, Shreveport & Pacific. The VS&P extends from a point on the Mississippi river, opposite Vicksburg, Miss., across Louisiana to the Texas state line. The IC has operated the line under a lease, and it has formed an integral part of the IC system since 1926.

Reason for acquiring control is to reduce annual rental and tax payments which the IC is required to pay under the lease (*Railway Age*, August 31, page 22). Such payments totaled $518,373 in 1952. Under the lease, the IC must pay all taxes, including federal income taxes of the VS&P. The Internal Revenue Service has ruled that such payments by the IC constitute additional income for the VS&P, and a

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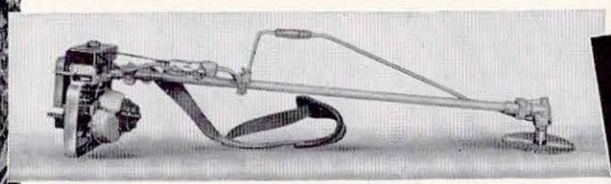

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STAR MODEL 202-R

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WRITE FOR CATALOG NO. 52-2

STAR HEADLIGHT & LANTERN CO.
HONEOYE FALLS, N. Y.
GUIDING THE WORLD'S RAILROADS SINCE 1889

STATEMENT required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of *Railway Age* published weekly at Orange, Conn., for November 2, 1953.

1. The names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, Simmons-Boardman Publishing Corporation, 30 Church Street, New York 7, N.Y.

Editor, James G. Lyne, 30 Church Street, New York 7, N.Y.

Managing editor, C. B. Tavenner, 30 Church Street, New York 7, N.Y.

Business manager, J. S. Crane, 30 Church Street, New York 7, N.Y.

2. That the owners are Simmons-Boardman Publishing Corp., 30 Church St., New York 7, N.Y.; stockholders of 1 per cent, William E. Russell as Executor of W. & T. of Ida R. Simmons Estate, 41 East 42nd St., New York 17, N.Y.; S. O. Dunn, 79 West Monroe St., Chicago 3, Ill.; James G. Lyne & Louise Lyne, 30 Church St., New York 7, N.Y.; Arthur J. McGinnis, 30 Church St., New York 7, N.Y.; Conrad J. Wageman & Florence F. Wageman, 79 West Monroe St., Chicago 3, Ill.; Mrs. Carrie E. Dunn, 221 East Chestnut St., Chicago 11, Ill.; Mrs. Mae E. Howson, 6922 Paxton Ave., Chicago, Ill.; Ella L. Mills & Catherine S. Mills, Westfield, N.J.; Mrs. Ruth W. Johnson, 1615 Ravenna Blvd., Seattle, Wash.; J. V. McManus, 39 Broadway, New York, N.Y.; J. Streicher & Co., 2 Rector St., New York, N.Y.; Partners of J. Streicher & Co. are Joseph Streicher, Jack L. Streicher, Ethel Streicher, Judson Streicher, all of 2 Rector St., New York, N.Y.; J. W. Gould & Co., 120 Broadway, New York, N.Y; Partners of J. W. Gould & Co. are Jerome W. Gould, Arthur A. Gould, Joseph Reichwein, all of 120 Broadway, New York, N.Y.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.) 14,364.

JAMES G. LYNE
Editor.

Sworn to and subscribed before me this twenty-eighth day of September, 1953.

EDMUND J. PUYDAK
Notary Public, State of New York No. 41-3179300
Qualified in Queens County
Certs. filed with New York Co. Clk. & Reg.
[SEAL] (My commission expires March 30, 1955)

(*Continued from page 78*)
tax is imposed on such additional income *ad infinitum*.

The IC, through Mississippi Valley Corporation, already owns about 45 per cent of outstanding VS&P stock. Additional shares will be purchased from time to time at not to exceed $126.50 per share. No general offer to purchase will be made.

Equipment & Supplies

Domestic Equipment Orders Reported in October

Domestic orders for five diesel units, 3,935 freight cars and 23 passenger cars were reported by individual purchaser in *Railway Age* in October. Estimated cost of the diesel units is $795,000; of the freight cars, $24,510,000; and of the passenger cars, $3,605,000. An accompanying table lists the orders in detail.

During the first 10 months of 1953, *Railway Age* has reported orders by individual purchaser for 990 diesel units costing an estimated $157,382,000; 21,442 freight-train cars costing an estimated $147,937,000; and 191 passenger-train cars costing an estimated $32,334,004.

LOCOMOTIVES

1,683 Locomotive Units Installed in 9 Months

Class I railroads installed 1,683 new locomotive units — including 1,667 diesel units and 12 steam and four gas turbine-electric locomotives — in the first nine months of 1953, the Association of American Railroads has announced. In the first three quarters of 1952, Class I railroads installed 2,396 diesel units, and 13 steam, two electric and six gas turbine-electric locomotives.

September installations alone totaled 118 units, including 117 diesels and one steam locomotive, compared with September 1952 installations of 227 diesel units and two steam locomotives.

Class I railroads had 548 new locomotive units on order on October 1, including 520 diesel units and three steam, 10 electric and 15 gas turbine-electric locomotives. On the same date last year, motive power units on order included 1,002 diesel units and 21 steam and four gas turbine-electric locomotives.

The **Alaska** has ordered six 1,500-hp. diesel units from the Electro-Motive Division of General Motors Corporation at a cost of $1,021,703. Delivery is expected next December 1.

The **Missouri Pacific** has been authorized by the Federal District Court to purchase 66 diesel units at a cost of approximately $10,731,000. Of the total order 48 units will be assigned to the MP and nine each to the Gulf Coast Lines and the International-Great Northern. The order will complete dieselization of the two subsidiaries and increase MP diesel operations to about 74 per cent.

Directors of the **Piedmont & Northern** have approved a plan to complete dieselization of the road's motive power by replacing the electric locomotives now operating on the North Carolina division. Conversion to full diesel operation will involve expenditure of about $1,000,000 for new motive power and diesel shop facilities (See New Facilities column). It has not yet been determined how many units will be ordered.

FREIGHT CARS

The **Mozambique Railway** (Portuguese East Africa) has ordered 398 40-metric-ton gondola cars from the Magor Car Corporation.

COMMUNICATIONS

The **Chicago, Indianapolis & Louisville** has ordered radio communications equipment, as indicated below, "which is about 50 per cent of the installations we plan to make during 1954," according to a company spokesman. At Lafayette, Ind., a base station will be controlled by the yardmaster at the Shops yard office with additional control in the dispatcher's office. The station will use Motorola FMTU-80 equipment with power of 30 watts and will operate on a frequency of 160.47 megacycles. Similar equipment will be installed in 12 locomotive units and six cabooses. In addition the cabooses will each be equipped with an auxiliary portable two-way radio unit (Motorola Model FHTU-1) operating on the same frequency with a power of 250 milliwatts.

IRON & STEEL

The **Pennsylvania** has ordered 100,000 net tons of steel rail costing $8,800,000. The order was placed as follows: United States Steel Corporation —50,000 tons; Bethlehem Steel Company—44,000 tons; Inland Steel Company—6,000 tons. About one-quarter of the rail will be 155-lb., about one-half, 140-lb., and the remainder, 133-lb. It will be installed in the road's main line.

DOMESTIC EQUIPMENT ORDERS REPORTED IN OCTOBER

LOCOMOTIVES

Purchaser	No.	Type	Issue Reported	Builder
Georgia	2	1,500-hp. Gen. Purpose	Oct. 12	Electro-Motive
Norfolk Southern	3	1,600-hp.	Oct. 26	Baldwin-Lima-Hamilton

FREIGHT CARS

C&NW	30	50-ton Box	Oct. 26	Amer. Car & Fdy.
Fruit Growers Express Co.	280	50-ton Refrigerator	Oct. 26	Pacific Car & Fdy.
GTW	100*	50-ton Box	Oct. 19	Amer. Car & Fdy.
	100*	70-ton Flat	Oct. 19	Amer. Car & Fdy.
	200*	70-ton Gondola	Oct. 19	General American
IC	1,500	50-ton Box	Oct. 26	R.R. Shops
Maine Central	40	50-ton Pulpwood	Oct. 26	Bethlehem Steel
Santa Fe	100	70-ton Cov. Hopper	Oct. 26	Pullman-Standard
Southern	1	150-ton Flat	Oct. 26	R.R. Shops
	14	125-ton Flat	Oct. 26	R.R. Shops
SP&S	500	Box	Oct. 26	NP Shops
Transportation Corps	320	50-ton Box	Oct. 5	Pullman-Standard
Union Tank Car Co.	500	50-ton Tank	Oct. 26	Co. Shops
WM	250	70-ton Gondola	Oct. 26	Bethlehem Steel

*GTW's portion of an overall order for 4,780 freight cars placed by the Canadian National.

PASSENGER CARS

ACL	2	Sleeping	Oct. 26	Pullman-Standard
C&EI	2	Sleeping	Oct. 26	Pullman-Standard
C&NW	16	Gallery-type Coach	Oct. 12	St. Louis Car
L&N	1	Sleeping	Oct. 26	Pullman-Standard
NC&StL	2	Sleeping	Oct. 26	Pullman-Standard

Railway Officers

CANADIAN NATIONAL.—John Taylor Whiteford has been appointed general passenger traffic manager at Montreal, succeeding **Oswald A. Trudeau,** whose retirement was reported in *Railway Age* October 26.

R. R. Risk, general foreman at Stratford, Ont., has been appointed acting superintendent motive power and car equipment of the Northern Ontario district at North Bay, Ont., succeeding **L. S. McGregor,** temporarily assigned to special duties.

DELAWARE & HUDSON.—Fred Sorbe has been appointed Canadian traffic manager at Montreal, Que., succeeding **Newton J. Ferguson,** deceased.

FRISCO.—Lloyd T. Ables has been appointed supervisor freight loss and damage prevention at Springfield, Mo.

GREAT NORTHERN. — I. E. Clary, division superintendent of the Cascade division at Seattle, Wash.,

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When you need replacement wheels in 20″, 16″ or 14″ sizes, standardize on quality . . . standardize on Fairbanks-Morse steel wheels for longer life. Fairbanks, Morse & Co., Chicago 5, Ill.

Conform strictly to A.R.E.A. standards

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retired October 31, after 54 years of service, and has been succeeded by **R. N. Whitman,** terminal trainmaster at that point. Mr. Whitman, in turn, has been replaced by **W. P. Coliton,** trainmaster at Havre, Mont.

CANADIAN PACIFIC.—C. L. Burpee, district passenger agent at Victoria, B.C., has been appointed general agent, passenger department, at Ottawa, Ont., succeeding **A. Leo Sauve,** who has retired after 47 years of service. **W. E. Clampitt,** chief clerk, passenger department, at Winnipeg, has been named district passenger agent for the Maritime Provinces at St. John, N.B., succeeding **Harry Newton,** who replaces Mr. Burpee at Victoria.

I. D. Sinclair

I. D. Sinclair has been appointed general solicitor at Montreal (*Railway Age* October 26).

R. E. Wilkes, assistant to superintendent in the highway services department, has been named superintendent of Canadian Pacific Transport Company in charge of highway services in the West, with headquarters as before at Winnipeg, succeeding **M. A. Keays,** whose promotion to assistant to vice-president of CPR's Prairie region at Winnipeg was reported in *Railway Age* October 12.

NEW YORK CENTRAL.—Raymond T. Mason has been appointed assistant general freight agent at Detroit. **L. W. Ollmann,** passenger representative at Chicago, has been named general agent at San Francisco, succeeding **A. L. MacKenzie,** retired.

Titles of **J. E. Dooley** and **W. R. Horton** have been changed from general transportation inspector to inspector of operations, New York.

Al Auerbach has been appointed electronics engineer at New York, succeeding the late **George M. Brown.** Mr. Auerbach has been a television engineer with the Fada Radio & Electric Co.

PENNSYLVANIA.—C. R. Brenneman, freight agent at Pittsburgh, has been named superintendent stations and transfers of the Western region, succeeding **G. H. Hill,** recently named director of the new l.c.l. research group of the Association of American Railroads (*Railway Age*, October 5).

Elmer Hart, comptroller at Philadelphia, retired October 31, after more than 50 years of service.

READING.—H. F. Lyons, assistant superintendent car department at Reading, Pa., has been appointed superintendent car department, succeeding **H. S. Keppelman,** transferred.

SANTA FE.—Walter E. Davis, general auditor at Chicago, retired October 31.

SOUTHERN.—John C. Mais, commercial agent at Philadelphia, has been appointed district freight agent there, succeeding **Joseph S. Ramspacher,** who retired November 1, after 33 years of service.

SOUTHERN PACIFIC.—John B. Reid has been appointed vice-president at New York and **Robert E. Plummer** has been named assistant to president at San Francisco, effective November 1. Both Messrs. Reid and Plummer have been assistant vice-presidents in the road's financial office at New York. The title of vice-president in charge of finances, held by **John G. Walsh** at the time of his death last August (*Railway Age* September 7) has been abolished. **O. A. Smith,** president of Pacific Electric, has been appointed assistant to president of the SP at Los Angeles. In addition to his duties as president of PE, Mr. Smith will act as executive representative of the SP president in Southern California. He will assist in continued local development of the area and further improvement of the two roads' services.

John B. Reid

J. F. Elliot, assistant secretary at Houston, Texas, has been elected secretary, succeeding **G. B. Herbert** who has retired (*Railway Age*, August 31).

Mr. Reid was born in Watertown, N.Y., and was graduated from Rensselaer Polytechnic Institute (E.E., 1925) and Harvard Graduate School of Business Administration (M.B.A., 1927). Mr. Reid was first employed in the credit department of the National Commercial Bank & Trust Company of Albany and then joined the industrial buying department of National City Company, investment banking affiliate of National City Bank of New York. He was then engaged as statistician and assistant to financial vice-president of Columbia Gas & Electric Corp. of New York, leaving that post to join the SP in 1943 as assistant to vice-president in charge of finances. He became assistant vice-president at New York in July of this year.

Robert E. Plummer

SOUTHERN PACIFIC (TEXAS & NEW ORLEANS).—H. T. Wray has been appointed auditor disbursements at Houston, Tex., succeeding **R. F. Davis,** who has been named assistant auditor there. **E. R. Beadle** has become assistant auditor disbursements at that point, succeeding **E. A. Field,** who has retired.

TEXAS & PACIFIC. —Ervin Rehfeldt, chief clerk in the passenger traffic department at Dallas, Tex., has been appointed district passenger agent there, succeeding the late **Joe Sloan.**

WESTERN PACIFIC.—Kenneth A. Rank, chief clerk at Chicago, has been appointed general agent at Detroit.

OBITUARY

Otto W. Crapser, retired division passenger agent of the **New York Central,** died October 20 at Morenci, Mich.

Newton J. Ferguson, general Canadian freight and passenger agent of the **Delaware & Hudson** at Montreal, died October 15.

Ward Vanderpool, retired secretary and assistant treasurer of the **Rock Island,** died October 20 in St. Luke's Hospital at Chicago.

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Whether they are installed underground, overhead, on the surface or a short distance underground—railroad communication cables must withstand a variety of conditions, such as severe moisture, weathering, vibration, abrasion, or lead sheath corrosion. The cable to specify is U. S. Hydrosec®-S Railroad Communication Cable.

The conductors are made of solid annealed coated copper insulated with Hydrosec®-S, a special low dielectric constant heat and moisture-resistant rubber insulation. Its dielectric constant, power factor, loss factor and moisture absorption characteristics are *low*. Its insulation resistance and power factor stability are *excellent*. Both the individual insulated conductors and the taped assembly are covered with a durable Neoprene jacket providing long-time protection against acids, alkalies, heat, light, oil, and mechanical abuse, particularly at the exposed ends.

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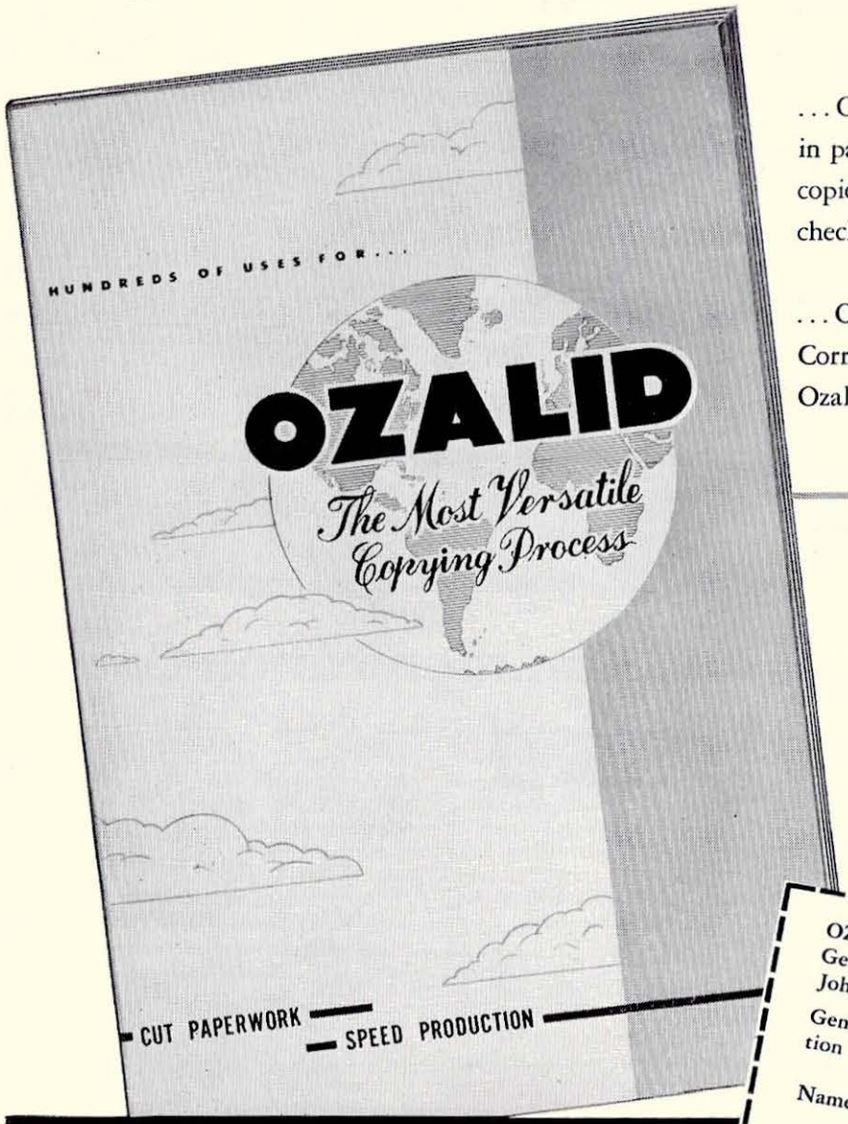

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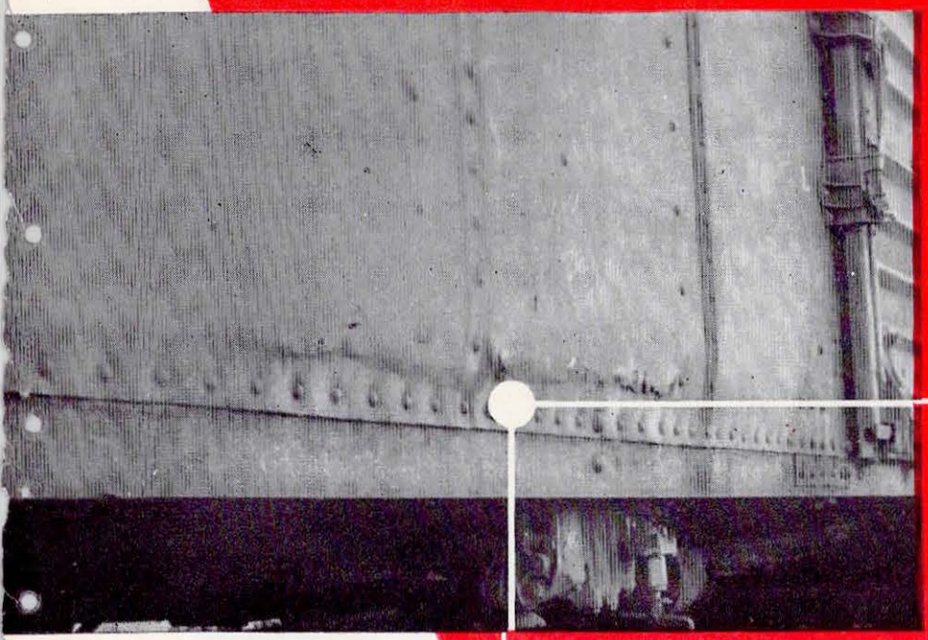

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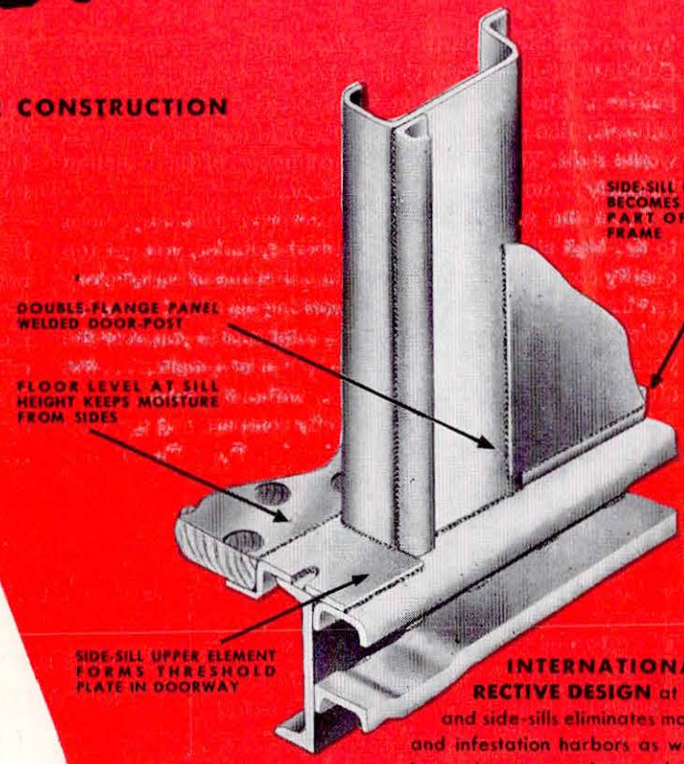
IT COSTS LESS TO ASSEMBLE A NEW CAR THAN TO REBUILD AN OLD ONE . . . and to continuously repair and "re-patch" on the basis of old design merely ***perpetuates*** expense! ***International's*** **CORRECTIVE DESIGN** illustrated at the right demonstrates "the new precision in freight car construction" in just a small section of the ***overall redesign*** of freight car sides, doors, underframes and other components instituted at ***International Steel!***


SIDE-SILL UPPER ELEMENT BECOMES AN INTEGRAL PART OF THE UNDER-FRAME
DOUBLE-FLANGE PANEL WELDED DOOR-POST
FLOOR LEVEL AT SILL HEIGHT KEEPS MOISTURE FROM SIDES
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INTERNATIONAL'S CORRECTIVE DESIGN at the door-post and side-sills eliminates moisture pockets and infestation harbors as well as greatly increasing structural strength.

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Handclasp of a friend-in-need

There's confidence in the very "feel" of the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers. The quick-acting "Squeez-Grip" fits your hand naturally like a handclasp ... hangs right ... carries right ... works right. You're in complete command of the situation instantly ... no fumbling ... no fatigue.

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It's not hard to see, when you fully compare and try, why C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers are your best buy for killing flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. Sizes range all the way from 2½ to 100 pounds capacity ... all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories, Armed Forces and Government Bureaus.

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting, inert gas ... smothers fire instantly, leaves no after fire mess ... harmless to equipment, materials and finishes ... even food is still perfectly edible.

Act now for complete free information on these first-rate, sure-acting fire extinguishers. Remember fire doesn't wait ... get the facts today!

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Letters from Readers

Objections to "Do Not Hump" Cards

NEW YORK, N.Y.

TO THE EDITOR:

I have read with much interest the letters from railroad men published in your Questions and Answers columns of August 17 and September 14 regarding shippers placing on loaded cars placards reading "Do Not Hump." I have been giving this problem considerable thought for some time, and while I have refrained heretofore from making any public comment, your attention to the subject gives me an opportunity to do so.

I am opposed to the use of "No Hump" cards on cars. It is my belief that their use interferes with normal operations. The whole idea is out of date and such instructions often are impossible to observe. Then, too, old cards are frequently left on the cars and yard crews have no way of knowing whether the card pertains to the present lading or to a load which was handled several days—or even months—earlier. . . .

It is my experience that the greatest damage to lading occurs during flat switching or in rough handling of a train after switching has been completed. I also find that the safest classification or switching is done through the use of mechanical retarders. . . .

I have been unable to "come up" with what, to me, is a satisfactory substitute for the "Do Not Hump" placard. There are many loads which are subject to damage if not handled carefully and some means should, perhaps, be found to bring this fact to the attention of all having to do with their handling. The difficulty with *any* placard is the same one which has made the "Do Not Hump" placards unworkable, i.e., no one in the yard has any way of knowing who put the card on the car and for what purpose, or whether it pertains to the load in the car at that particular moment. . . .

There is also the tendency of those placarding a car to exaggerate the "fragility" of the load or to have too much confidence in the results of such placarding. This adds confusion, and develops, in the last analysis, an attitude on the part of railroad employees to disregard all such cards. In my opinion, they can be blamed very little for so doing.

HENRY H. PRATT
General Traffic Manager
Crucible Steel Company of America

Plea for Protection

GORHAM, ME.

TO THE EDITOR:

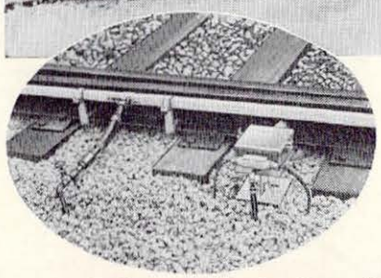
I have read that the conductors and and locomotive engineers are now demanding a pay increase; also that the pay of the engineers now ranges from $400 to $700 and $800 per month.

I should like to ask if railroads that cannot earn enough to pay dividends on their stock must pay the same wages that a rich road pays—that is, will a nationwide settlement of wages and working rules under the present railroad labor set-up force every railroad to have the same wage schedule?

As the present railroad labor set-up does not protect railroad stockholders from the unreasonable demands of operating brotherhoods for excessive pay increases and "featherbed" working rules, why do not the railroad executives work to get Congress to repeal the present railroad labor set-up? Why not get Congress to enact legislation making railroad strikes illegal and setting up a government commission to pass upon the wage and working rule demands of the operating brotherhoods, with the commission's decisions compulsory? How else will the rightful interests of railroad investors be protected from the continual extortionate raids of the employees' operating brotherhoods? It does seem as if the nation's railroad executives should try to do something to change the present situation and do something to curb the ruthlessness of the brotherhoods and protect the investors.

RALPH C. STONE

Snow Melting by Remote Control!



White Remote Controls with White gas burning switch heaters are proving dependable and superior IN ACTUAL SERVICE. Control unit in sealed off-rail box, with igniter, tower indicator, automatic relighter. Complete cycle in a few seconds. Gas consumption adjustable for mild or heavy weather. Write for Circular 35-A

E. R. Mason, New York; John A. Roche, Chicago;
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White Manufacturing Company

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Current Publications

BOOKS

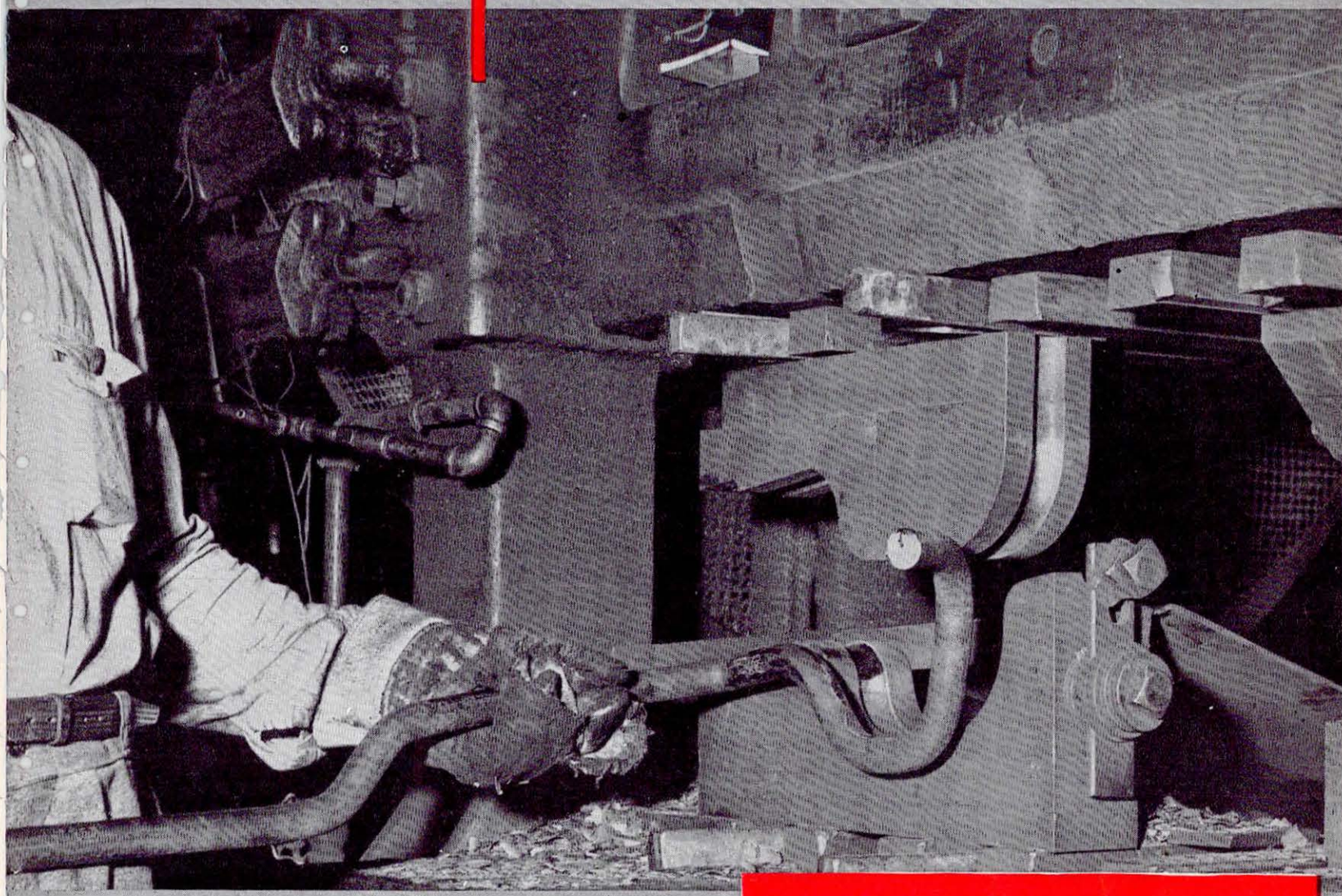
THE GULF, MOBILE & OHIO; A RAILROAD THAT HAD TO EXPAND OR EXPIRE, by James Hutton Lemly. 347 pages, illustrations. Richard D. Irwin, Inc., 1818 Ridge rd., Homewood, Ill. $5.

The Gulf, Mobile & Ohio is, relatively speaking, a new railroad. Its corporate operations began in September 1940, when the old and famous Mobile & Ohio merged with the younger and less famous Gulf, Mobile & Northern.

Although the M&O was much the older of the two, GM&N must be considered the "parent" road in this merger. It began its operations January 1, 1917, as the result of a lengthy and drastic reorganization of the older New Orleans, Mobile & Chicago. Because railroads of the United States went under control of the director general of railroads in December 1917, the GM&N had little time to improve on its predecessor's activities. When the federal government returned the railroads to private management in March 1920, the GM&N was, in effect, still a new, untried operating organization. Since a

PURE IMAGINEERING

from Standard's railroad laboratory!

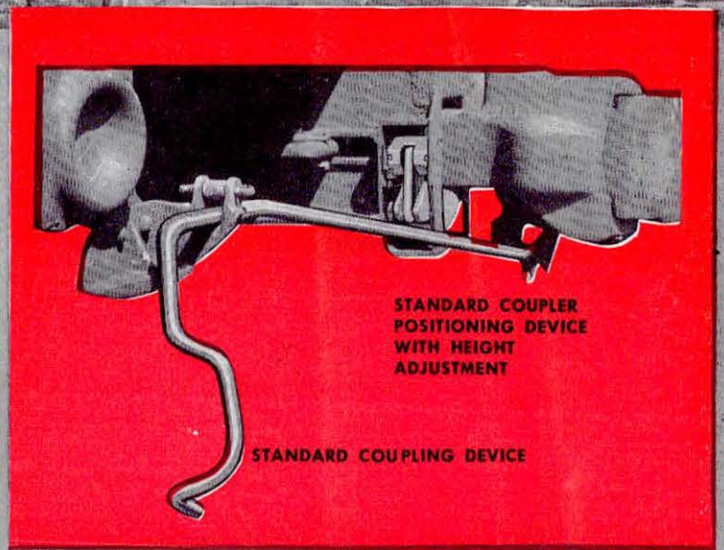


A *probing* mind constantly seeking the new—and an *open* mind ceaselessly improving the old. That's the combination which raises *Standard's* production team above the level of a fabricating plant—it is a *railroad laboratory*.

The latest improvement in the *Standard Coupling Device* is a perfect demonstration of the open mind constantly seeking to improve. A slight addition in length, a slight turn of the end, and this device was made *safer* as well as more efficient!

The *Standard Positioning Device with Coupler Height Adjustment* is a good example of the probing mind. It is a development with no predecessors. Pure *anticipation* of a need—imagineering—conceived this device for greater railroad safety.

These are the things which keep the story of *Standard* alive—continually moving ahead—constantly increasing its investment in the future of railroading.



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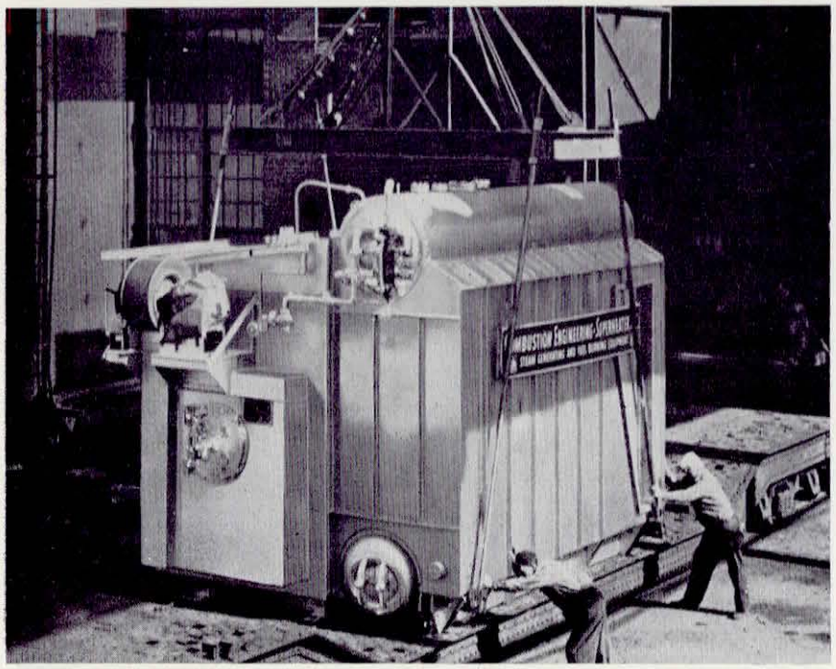
A Package Boiler With *Many* Advantages



The Type "VP" Package Boiler is the most widely used design in industrial boilers with capacities of from 4,000 to 30,000 lb. of steam per hour.

Principal features of the Type "VP" Package Boiler are:

Shop Assembly
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No Short-circuiting of gases
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The Product of a Company Outstanding in the Field of Steam Generation.

Readily adaptable to Railroad Shops and Terminals.

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All Types of Steam Generating, Fuel Burning and Related Equipment

new management was chosen to assume control at this same time, the date of March 1920 has been taken as the time at which this study of the growth program of the GM&N-GM&O should begin.

The early history of the lines which preceded the formation of the GM&N has not been ignored, but it has been subordinated to more recent activities of the company. This has been done in a conscious effort to devote the greater part of the study to the period of the greatest growth of the company. The history of the other roads which have entered the GM&O system has been treated in a manner similar to the early history of the parent GM&N. The study proceeds from March 1920, through the formative years of the GM&N to the present position of the GM&O.

The historical portion of the study is contained in Parts I through III. Part IV, an analysis of the importance of consolidation in the growth of the GM&N-GM&O, contains a summary of factors which have been most important in development of the road. Part V is composed of short histories of predecessor roads prior to their entry into the GM&N-GM&O system.

•

RETIREMENT POLICIES AND THE RAILROAD RETIREMENT SYSTEM Report of the Joint Committee on Railroad Retirement Legislation pursuant to S. Con. Res. 51 and 56. 83d Cong., 1st sess. Report No. 6—Parts I (770 pages) and II (172 pages). Government Printing Office, Washington 25, D.C. Part I, $2; Part II, 45 cents.

Part I—Issues in Railroad Retirement—covers historical origins and legislative development of the railroad retirement system, financial problems, eligibility and benefits, and relationships with the social security system. Chapter 3 contains a comprehensive feature-by-feature comparison of the four major public and four largest private retirement systems in the United States. Part II—Economic Problems of an Aging Population—is intended to be the most comprehensive fact book available on economic problems of old age. Both documents are fact-finding studies only and hence do not contain legislative recommendations. They are well-documented and indexed.

NEW PERIODICAL

POWER AND FLUIDS. Fall 1953. Worthington Corporation, Harrison, N. J.

Worthington Corporation has announced the first issue of this new technical periodical, which is to be published quarterly. Editorial content, consisting of useful and authoritative information for readers in the power and fluid handling fields, will describe new product applications, processes and methods. Subjects covered will include installations, operation and maintenance of industrial apparatus, and applications of particular interest because of specific problems involved. All material will be slanted to serve as a technical aid to the reader in his

TO CONNECT AND DISCONNECT FLUID-CARRYING LINES *FAST*

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SLIDE-SEAL COUPLINGS

This Aeroquip development saves you time and money!

LOW COST . . . Aeroquip Slide-Seal Couplings connect and disconnect fluid-carrying lines instantly assuring full flow of fluids when connected, and perfect seal of each half when disconnected.

LIGHTWEIGHT AND COMPACT . . . They are ideal for use in confined areas and may be used to advantage in a wide variety of applications.

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ADAPTABLE for use with many fluids including hydraulic fluids, hot oil, crude and fuel oils, anti-freeze solutions, gasoline, Diesel fuels, air, water, and other fluids.

Descriptive literature is available . . . please write.

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Here are Just a Few of the Trend-Setting Features...

- **Chrysler 65-bhp 6-cyl. Gas Engine**
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- **MOBILIFT Full-Floating Drive Axle.**
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- **One-Piece Hood Raises for Easy Service Accessibility.**

These—and many more—exclusive MOBILIFT features makes this new D-424 the lift truck for you!

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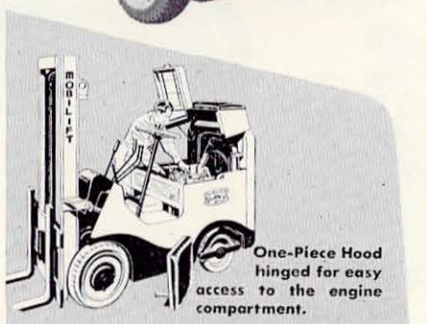
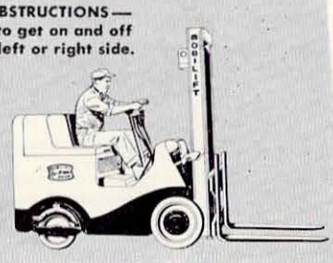


One-Piece Hood hinged for easy access to the engine compartment.

NO OBSTRUCTIONS—Easy to get on and off from left or right side.



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work. The publication will be distributed to Worthington customers and prospective customers; libraries and industrial relations departments of recognized technical institutions, including engineering colleges; technical societies; and industrial concerns requesting it. Reprints of articles appearing in it will be furnished upon request. The lead article in the first issue, entitled "The Pushbutton Railroad," describes the Milwaukee's new yard at Milwaukee.

PERIODICAL ARTICLES

DETERMINATION OF THE PRINCIPLES OF GEOGRAPHICAL AND FUNCTIONAL ORGANIZATION OF A RAILWAY SYSTEM. SIMPLIFICATION AND RETRENCHMENT OF THE ADMINISTRATION OF RAILWAYS, by Bengt Adamson. Monthly Bulletin of the International Railway Congress Association (English Edition), September 1953, pp. 533-613. International Railway Congress Association, 19, Rue du Beau-Site, Brussels, Belgium. Single copies, 100 Belgian francs (not including postage).

This is a report on Question 8 to be presented at the 16th session of the International Railway Congress Association in London, in 1954. After discussing organization in general, the report proceeds to discuss organization of railways under the headings: General; division of authority and responsibility (vertical division); functional organization (horizontal division); geographical organization; number of administrative personnel; and simplification and retrenchment of the administration of railways. American railroads from which reports were received are the Santa Fe, the Atlantic Coast Line, the New York Central, the Pennsylvania and the Southern.

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TRAFFIC IS STRANGLING OUR CITIES; CAN THE RAILROADS PROVIDE A CURE?, by Allan Keller. Railway Progress, October 1953, pp. 11-18. Federation for Railway Progress, 1430 K st., N.W., Washington, D.C. Single copies, 25 cents.

This article is a condensation of a series on the commuter problem which appeared recently in the New York World-Telegram and Sun.

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TRAINMEN: WHEN THEY FIGHT, THE U.S. IS INVOLVED. Business Week, October 10, 1953, pp. 170-173. McGraw-Hill Publishing Company, 330 W. 42nd st., New York 36. Limited supply of tear-sheets available free.

A brief history of the Brotherhood of Railroad Trainmen and its relation to the national railroad labor picture. A brief review of recent disputes involving the railroad operating brotherhoods is also given.

•

THE PASSENGER SPEAKS: TRAINS VS. PLANES, by Dorothy Diamond. Railway Progress, October 1953, pp. 19-23. Federation for Railway Progress, 1430 K st., N.W., Washington, D.C. Single copies, 25 cents.

A survey conducted by Richardson,

FULLY TESTED
HOT-BOX
PREVENTION

NOW AVAILABLE

A.A.R. APPROVED FOR UNLIMITED USE IN INTERCHANGE

TEST REPORT FROM RAILWAY AGE

May 4, 1953

The Plypak packing container was also subjected to extensive laboratory tests under which it demonstrated that it should produce considerable benefits in reducing hot boxes. Based on these laboratory tests, 3,000 70-ton hopper cars have been equipped with Plypaks. Experience to date has justified our confidence in the ability of this device to reduce hot boxes. From April 1952 through January 1953 the average percentage of our 70-ton hopper cars equipped with Plypaks has been 2.94, yet these cars have accounted for only 0.77 per cent of the hot boxes on 70-ton hopper cars. In other words, in the same service, cars without Plypaks account for approximately four times as many hot boxes per car as do cars equipped with Plypaks.

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COULD YOU ASK FOR BETTER PROOF OF HOT-BOX REDUCTION?

PLYPAK
WASTE CONTAINER & RETAINER

Hot-Boxes, due to lubrication failures, which occur so frequently in high-speed freight operation, can now be materially reduced.

Journal Lubrication has been the subject of years of research and testing in an endeavor to find a means of providing positive lubrication under all operating conditions.

This study resulted in the development of a new type waste-container and retainer, PLYPAK, which has been fully proven in more than three years of rigid service-testing. PLYPAK holds waste firmly and keeps it oil soaked with pumping action, performing this needed function without creating additional hazard. The resilient PLYPAK is an essential aid to proper lubrication.

To minimize hot-box hazards from lubrication failures, protect all journal packing with PLYPAK waste retainers.

Your inquiry is invited.

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CLARK UTILITRUCS handle the toughest jobs at least cost!

...they're engineered to satisfy driver, maintenance man, management

Here are the most advanced 6000-7000 lb. fork trucks on the market today—Clark's gas or electric UTILITRUCS. Built to handle jobs that break the backs of less rugged trucks, these UTILITRUCS have proved their superiority in foundries, steel mills, stevedoring* and heavy warehousing. They represent an ideal balance of essential engineering features. They get more work done at less cost, for these reasons:

1. Easier to drive

All controls at the driver's fingertips, like an automobile; compact and more maneuverable; shockless steering; increased braking efficiency; 140 sq. inches additional visibility; 25 inches of free-lift; DYNATORK or HYDRATORK DRIVE available on gas model.

2. Easier to service

Complete accessibility for maintenance. On gas model: one-piece "zipper" hood folds back to expose engine; one-piece floorboard lifts up to expose master cylinder and transmission; swing-out battery. All service points easy to reach.

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Welded, integral-unit box frame eliminates distortion; higher inch-pound rating; axle-to-frame mounting absorbs shocks and strains; new design wheel and backing plate seals out dirt and abrasives. Oil bath air cleaner and oil filter standard on gas model. Totally-enclosed drive motor, sealed-for-life bearings on electric model.

We invite you to compare the UTILITRUCS to any 6000-7000 lb. truck on the market! Without obligation, you can discuss them with your nearby Clark dealer, listed in the Yellow Pages of your phone book. Or write us for free descriptive literature.

*Special stevedoring model available

1903 1953 CLARK EQUIPMENT

CLARK EQUIPMENT

Industrial Truck Division
CLARK EQUIPMENT COMPANY
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Bellows, Henry & Co., on why people prefer the train or the plane. It was conducted in New York at Grand Central Terminal, Pennsylvania Station, and the 42nd Street airline terminal, and at Idlewild Airport.

PAMPHLETS

FREIGHT CARS. 24 pages, illustrations, map. Chicago Freight Car & Parts Co., 228 N. La Salle st., Chicago 1. Free

Action pictures taken in the company's shops at Chicago, Auburn, Wash., and Pueblo, Colo., demonstrate how its repair, rebuilding and new car construction operation can assist railroads, private car line operators and others. Several pages are devoted to showing the wide variety of car types handled, air brake reconditioning services, etc.

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THIRTIETH ANNUAL GREEN BOOK. 12 pages, illustrations. National Safety Council, 425 N. Michigan ave., Chicago 11. Free.

A summary, like previous editions, of safety performance of Class I railroads in the annual Railroad Employees' National Safety Award (*Railway Age*, May 18, page 13). Comments Ned H. Dearborn, president of the council: "This book is a record of 30 years progress in railroad safety, and a fine record it is. Here is an achievement to be proud of, and an incentive to even better accomplishment in the future."

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FIRST FIFTY YEARS, CLARK EQUIPMENT. 75 pages, illustrations, charts. Clark Equipment Company, Buchanan, Mich.

A profusely illustrated presentation of the company's products, personnel and operations today and over the years since its founding in 1903. Photographs trace development of the company's lift trucks and other materials handling equipment from earliest models to the present day. Other products treated in the chronology include the depression-born "AutoTram" — single-unit high-speed rail passenger car—and the street railway P.C.C. (Presidents' Conference Committee) car truck.

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SELECTED MOTION PICTURES. Association Films, Inc., 347 Madison ave., New York 17.

More than 1,400 subjects, including 140 industrially-sponsored free-loan films, are described in this, the 39th annual catalog. The films are grouped under 22 headings to assist teachers, industrial relations directors, program chairmen and others who use films in their programming. Among categories listed are agriculture, arts and crafts, geography, history, home economics, industry and manufacturing, social science, and entertainment. More than 100 new films have been added to Association Film libraries in the past year, including 36 industrial films. Among the latter are "225,000-Mile Proving Grounds," sponsored by the Association of American Railroads.

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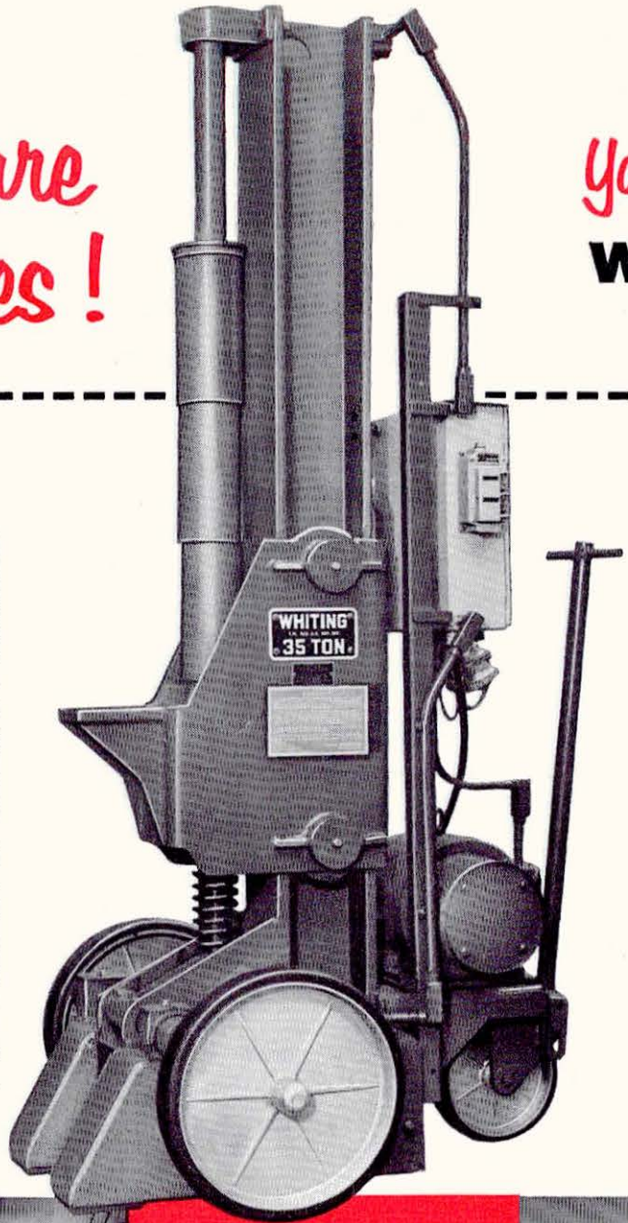

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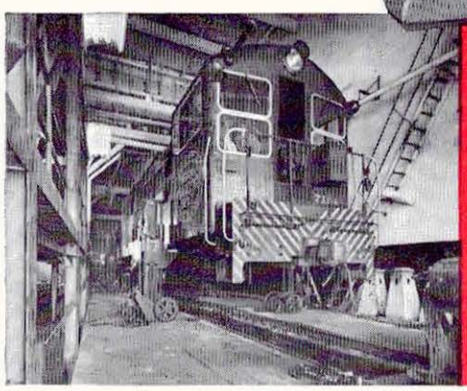

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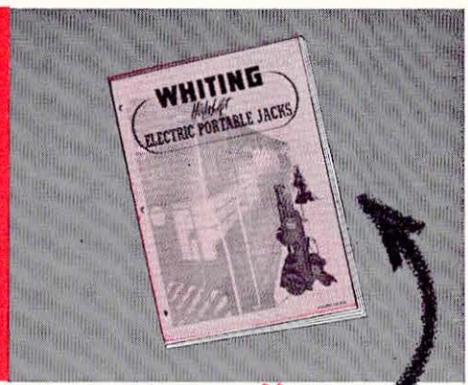

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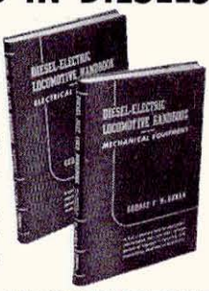

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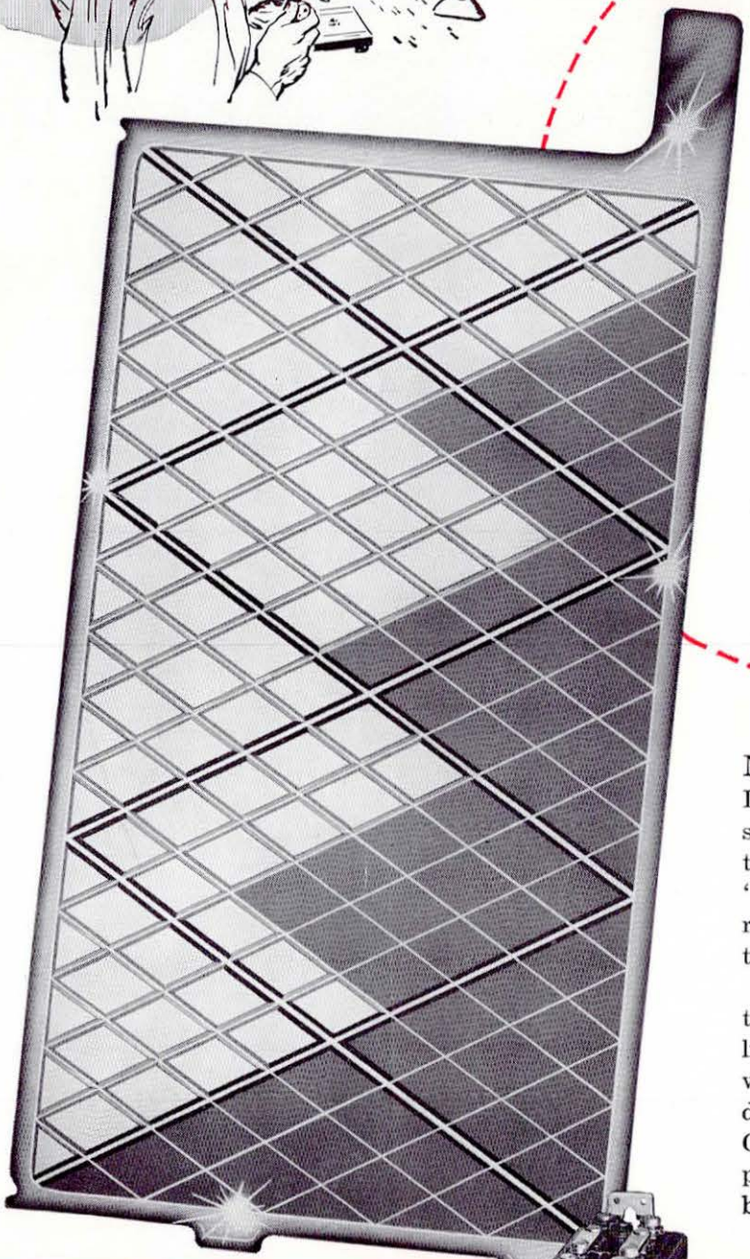

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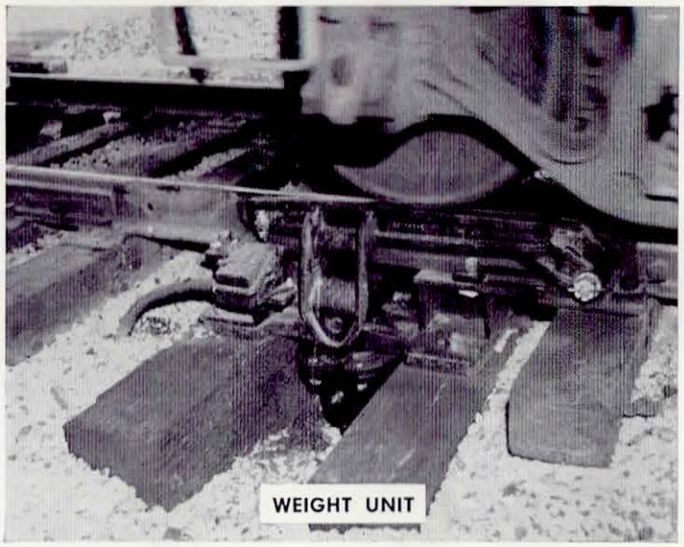

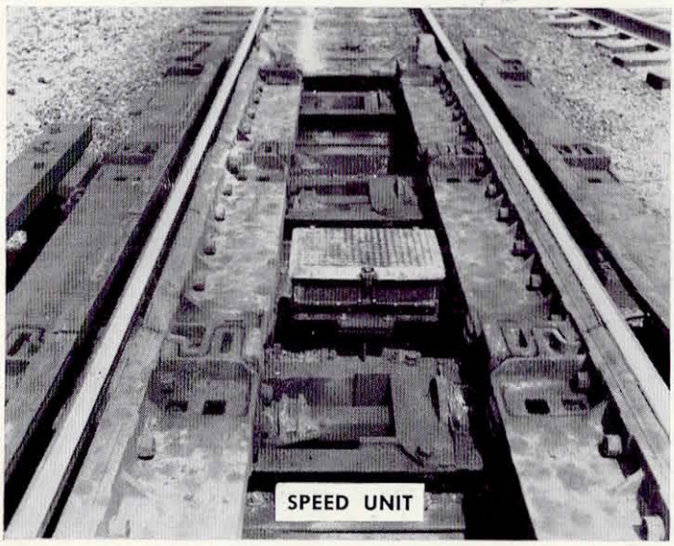

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